

Malaria Pills



Roberto Reitsma  
Estacion Biologica  
Chayul  
91-92 - Book I

Cobija Blanket

"Blenke"

Alguien - Sambadi

necesita - mid

Call of Blue-black Grosbeak - <sup>tree</sup> froglike

Green Jay - metallic crown

Green Jay - metallic crown  
Green Antelope - same as Dusky Ant.  
White Breasted W. Wren - feeds deep

White Breasted w. Wren - feed de de up deep

- sometimes followed by single note

B. Thr. Fol. Gl - Downward Thill

Who the Robin Song (like a cat)

Little Tinamou - one long drawn out note-high  
Great - two notes

Great  $\sim$  two notes

Slaty beered Tinsnow - one deep drawn out

Gray Hawk - also 21 1 21 note - ween

Blue Jay like call

Collared Forest Falcon - like Laughing Falcon

- slower, slightly wear

Red Billed Pigeon - ~~slowly, slightly~~  
rum rum rum

Shook Billed - who cooks for you

White-eyed Dove - like Red-bellied - rougher

Common Gold Dove - loud wooooo wooooo wooooo

Ruddy Duck seen - ~~5~~ 11 - more reported

Blue - Root Root Root

Yell. Tipped Dove - sad, drawn out <sup>3</sup>/<sub>4</sub> note

Red Lined Parrot - only two main <sup>new</sup> notes when not excited

only Shampersham Mearly

citroeline. Theron - killed Theron and  
Hacanga - also has a hill on same pitch

Golden-fronted Woodpecker - like Black-chinned - same

Dusky capped Flyc - plaining cry

Barium created Phos - 1.1% for Crest under

Brown chested Flyc- like all Crested Gnatcatcher is broken up.

• Damsel Antshrike - calling dist

- Dragon-like - 2 notes

Two-Way ANOVA - Single factor, 2 levels

1.  $\Delta H$  - Standard Enthalpy of Formation

1.1. D.M. - like a deep SP. AS, white:

Def by Hand - Equations like these



Greenish Elaenia or Yellow Oriole

6:35 - 9:15

November 10/3/91

Chest Sided Warbler	-0.3	5R	9/11 Cor
Dusky Ant h	-0.5	11L	
Yellow winged Tanager	0.0	15L	
Black-bellied Saltator	0.0	6L	
Bay's Thr. Saltator	0.0	6L	
Long Bill Gnatcatcher	0.4	20L	
Y.B. Chat	0.2	6R	10/12
Yellow Tail Oriole	0.7	15R	
Redstart	0.0	3R	4/11 Cor
Lead Fly h	0.3		
Trop. Tanager	-0.5	5L	16/16
Maggi h	0.2	12R	
Slope-head Tody Fly	0.2	5R	
Salvator aticeps	0.3	5R	
No. Oriole?	-0.2	17L	6/16 24/17
Green Heron	0.2	12R	
White Thr. Rob	0.2	11R	
Sc. Pung Tanager	-0.1	00	Wings
Cr. Col Tanager	0.4	9R	
Vel. Bil. Coc h	0.3	8R	
Wilson's h	0.3	5L	
2) Spot Br. Wren h	0.3	7L	
2) Spine-tail h.s.	0.9	2R	
M. Oropendula h.s.	-0.3	10L	
Col. h			
Kentucky Warb	1.3	6L	01/16
Hooded	1.3	14L	

1 am orange, no warblers

Cr. Col Tanager

high star

Great Tanager	1.5	10R	
Little Heron	1.3	0.0	
2) Dusky Antbird	1.8	3L	
Wilson's O.S.	1.6	3L	3/5
Green Tanager	1.4	15L	
Am. B. C. h	2.1	9R	
Olive Back Flyc	2.3	10R	
Wedge Bil. Woodpecker	3.1	1R	9/12
Hooded h	2.9	19L	
Y.B. W. Wren h	3.5	3R	4/7
Yellow Bell			
Slav. Salt. Tanager	3.7	13R	
Hooded h	3.5	7L	
Redstart h	3.7	0.0	
Cr. Col Tanager	4.3	10L	
No. Woodpecker h	4.1	9L	
Wilson's h	4.5		
W. B. Wren s	4.5	3L	3/14
Lesser Greened h			
Sav. H. Woodpecker h	4.5	18L	
Orange Bil. Sp. h	4.8	6R	
Long-bill Wren s	4.8	7R	
2) Sp. B. Wren h	4.5	11R	
2) Blk. B. Sal	4.8	17R	
Brown Cr. Flyc	4.3	13R	9
3) Aracari s	4.5	12R	
Cr. Col Tanager	4.8	10R	
W. Wren s	4.8	00	
Shrub h	5.2	10R	
Cr. Wren h	5.3	5L	21/22
W. Wren s	5.3	00	
2) Dusky Antbird h	5.8	12R	
Spot Br. Wren	5.8	1L	
2) Leaf Wren s	6.2	11L	10/11
2) Sp. B. Wren h	6.2	12L	
W. B. Wren h	7.2	32R	
Blk. B. Wren h	7.7	3L	9/12
Blk. B. Wren s	7.8	18L	9/12

2 Y Euphonia	8.2	18L	
C. C. Robin	8.7	4R	
Scarlet King Tan	8.6	15L	
W. Wren	8.7	9L	4/13
Yellow Warb	8.5	15L	11/12
4 R. T. Ant Tan	8.8	8L	2.5R
Olive back Euph	9.2	18L	
5 No Oriol	9.2	10L	2.10R
Sc King Tan	9.1	12R	
2 Sp Br Wren	9.7	9R	
Chat	9.8	13R	
Shd Td Fly	10.0	2R	
Chat	10.3	15R	
Bananaquit	10.4	11L	
Se Br Wren	10.1	10L	
B. H. Oriol	11.3	3R	
2 B. H. Cat	11.3	3R	
2 Sc King Tan	11.5	3R	
Y. B. Cacique	10.7	8L	
C. Col Tan	11.3	5R	
W. Wren	11.3	3R	
Hooded	11.5	17L	
Gen Bk Sp	11.8	2R	
Maynaka	11.8	12R	
Wilson	"	2R	3/13
Y. T. Oriole	11.9	7L	
Belted Antshrike	11.9	10R	

2 Sp Br Wren	11.9	11L	
Michael Tanager	11.9	11R	
C. Col Tan	11.8	3L	
Chat	12.1	2R	3/13
Great Antshrike	12.6	18R	
Wilson	13.1	9R	3/9
Hooded	13.5	10R	
Ovenbird	13.5	12	0.5/11
2 Chachalaca	13.7	5R	
Chat	13.9	13R	
Chat	14.2	9L	
Quaker Parrot	14.3	12L	
2 Sp Br Wren	14.5	7L	
Se Br Wren	14.2	10L	
Sc King Tan	14.6	8L	
W. Col Tan	14.9	15R	
Ruf. Tail Tan	14.8	1L	
2 Y. T. Euphonia	14.9	15.4L	
Bananaquit	15.3	11R	
Manakin	15.3	2R	
Le. B. Tanager	15.8	10R	
Le. B. Tanager	15.5	12R	
Y. B. Cacique	16.2	15R	
S. Tanager	15.9	10L	
G. B. Tanager	16.5	7L	
W. C. Oriole	"	15L	9/12
2 R. T. Salvador	"	15L	
Wilson	16.5	6L	2/10
Wilson	16.9	2L	
2 No Oriole	17.1	2L	0.5/12
Wilson	17.1	0.0	
Yellow Warb	17.3	10L	2.3/27
Wh. Thr. Fly	17.3	17L	
Wh. Thr. Fly	17.5	8L	
Wh. Thr. Fly	17.5	7L	
Ruf. Tail Wren	18.7	3L	
2 Ruf. Tail Wren	19.4	10L	

Arch. Post Edge 635- 10/14  
920

Species	Sex	Wt	Wing	Tail	Notes
R. 16 Thr Salt	L	12.0	9L		
R. 16 Ant Tan	L	11.9	12L		
Yenduby Warb	L	12.0	10L		50%
Hooded "	L	12.0	14L		2
Little Hermit	S	12.0	5L		5
R. F Tail Wren	L	11.9	12L		1-100
YBC	L	11.9	19L		
Black faced Grosbeak	L	12.0	9L		
Ovenbird	L	11.7	13L		1/9
Spot Br Wren	L	11.7	12L		5
Blue black Grosbeak	L	11.7	2L		2 1/2
Sparrow	L	11.8	13L		2
Least Flyc	L	12.0	16L		2
Gnatcatcher	L	11.8	5L		2
Bengal Sparrow	L	11.2	5L		9 1/2
Least Flyc	L	10.7	15R		
" "	L	9.9	16L		
YBC	S	10.2	4L		2 1/8
Pine Siskin	S	9.3	11L		3/20
W.B. Fly	S	9.3	11L		3/20
Least Fly	L	9.3	15L		"
20 Chulal Wren	S	9.1	12L		17 1/2
Ovenbird	L	9.2	16L		3 1/4
Thrasher	L	9.1	11L		10 1/2
Group Vireo	L	9.2	15R		
YBC	S	9.3	11L		
G.B. Sparrow	S	8.9	12L		4 1/2
Pinkie	S	8.7	2L		

	9.9	9.2	9.12
2. Mottled Towhee	9.9	9.2	9.12
10. L. h.	5.9	17R	17.1
11. L. h.	8.3	11L	51.2
12. L. h.	7.5	8L	
13. L. h.	7.2	1L	21.3
14. L. h.	7.7	18L	
15. L. h.	7.2	1L	21.3
16. L. h.	7.2	1L	"
17. L. h.	6.8	9L	21.3
18. L. h.	6.2	4L	9.12
19. L. h.	7.3	8L	
20. L. h.	"	"	
21. L. h.	6.5	7L	21.3
22. L. h.	6.2	12L	31.5
23. L. h.	6.5	12L	31.5
24. L. h.	4.5	21.3	21.3
25. L. h.	1.1	17L	21.3
26. L. h.	3.7	9L	
27. L. h.	2.4	10L	
28. L. h.	3.1	3L	
29. L. h.	3.1	11R	
30. L. h.	2.5	51.2	
31. L. h.	2.5	9L	
32. L. h.	2.1	7L	
33. L. h.	2.1	7L	21.3
34. L. h.	1.6	2	
35. L. h.	1.1	30	
36. L. h.	1.1	21	
37. L. h.	0.5	6L	
38. L. h.	1.0	11L	
39. L. h.	1.0	15L	
40. L. h.	1.2	10R	
41. L. h.	1.3	6L	
42. L. h.	1.6	1R	
43. L. h.	1.3	10R	
44. L. h.	1.3	5R	
45. L. h.	1.3	5R	21.3
46. L. h.	1.3	5R	
47. L. h.	1.3	5R	
48. L. h.	1.3	5R	
49. L. h.	1.3	5R	
50. L. h.	1.3	5R	



6:20 - 9:25

RIVERSIDE FOREST 10/6/93

Spotted Owl h	0.2	20R	
YB) Ouncas <sup>eastern</sup> <sub>fruit</sub>	0.6	2R	23/24
YB Fly h	0.5	20R	
Booby Th Pol Gil h	1.4	16R	
R. Ant Tanagers	1.0	15R	
LEFL h	1.3	20R	
Wh Br Wood Wren	1.8	8L	
BC Faced Ant Thrush	1.8	8L	
Red winged Ant Thrush	1.7	9L	
13) hd Saltator	1.6	20L	
Least Fly h singing	2.1	11L	
R C Ant Tan h	2.1	20L	
2 Spot Br Wren	2.2	7L	
Collared Troop h	1.9	13L	
B Faced Ant Thrush	2.5	19R	
Y.B Flycatcher s	2.4	7L	2/4
Wedge Bill Wren s	2.9	5R	27/31
LEFL h singing	3.1	11L	
Sulph rumped Fly h	3.3	12L	
Dusky Antbird	3.6	8R	
Wh Br Wood Wren	3.5	16L	
Dusky Antbird	3.8	7L	
LEFL h	3.9	10R	
Kentucky h	4.1	12L	
W. Bil Woodcreeper h	4.5	8L	
R. C. Manakin h	5.1	8L	

2 Lesser Greenlets	4.6	4R	
Tanager h		12R	
R. Ant Tanager	4.5	7R	3/4
Y.B. Coccyz h	4.5	14R	
Tacanan h	4.3	12L	
2 Wh Bel Wren Building West	5.2	4R	9/9
YB Fly h	5.5	7R	
Mentally white h	5.9	12R	
LEFL h	5.7	13R	
Bendshell h	5.7	10L	
Redstart h	6.1	2R	
LEFL	6.4	18L	
Red winged Ant Thrush	6.9	3L	
Plain Xenops	6.9	9R	
Sulph R. Fly h	8.3	16L	
Green heron s	8.8	6L	2/5
B Faced Ant Thrush	8.2	20R	
Kentucky h	9.2	17R	
Red winged Ant Thrush	9.8	7L	
LEFL h	9.5	19R	
Dusky Ant	10.1	16L	
2 Spot Br Wren	10.3	11R	
YB Fly s	10.7	7L	2/4
Chest Sided s	"	15L	2/23/30
Wilson's s	"	6L	7/15
Mary h	10.6	7L	
Banded Ant Thrush	10.8	10R	
Hooded Warb h	10.9	5R	
R. Ant Tan h	10.9	20L	
Long Bil Ant Thrush h	10.8	15L	
LEFL	10.5	10R	2/2
Crimson Col Tan s	10.7	7R	
Kentucky h	11.3	3R	
Mary h	11.1	5R	
YB Fly h	12.7	11L	
2 Wh Bel Wren	12.9	16L	
W. Bil Woodcreeper h	13.2	10R	
R. C. Manakin h			
Plain Ant Thrush			
Sulph rumped Fly h			

Green Jay  
 Ooster Bird  
 Gold Crested  
 Tanager Wren

Bombus

14.0 52 → 152

Sp. Br. Wren

13.7

Bl. Black Grackle

LEFL

13.2 176

2. D. Wooded Antelope

13.5 712

B. C. Manakin

Worm Eater Wren

K. Warbler

White Bellied Wren

Tanager Count Greenlet

Green Greenlet

Buff the Pol. Wren

14.4 6R

B. C. Ant. Wren

14.6 812

Spot Br. Wren

14.8 1612

C I C A D A S 9.00

Sp. Br. Wren

16.4 1712

Thrush-like Wren

17.2 812

Little Greenlet

16.7 012

Slate Tail Wren

16.8 612

Baranagust

17.2 10R

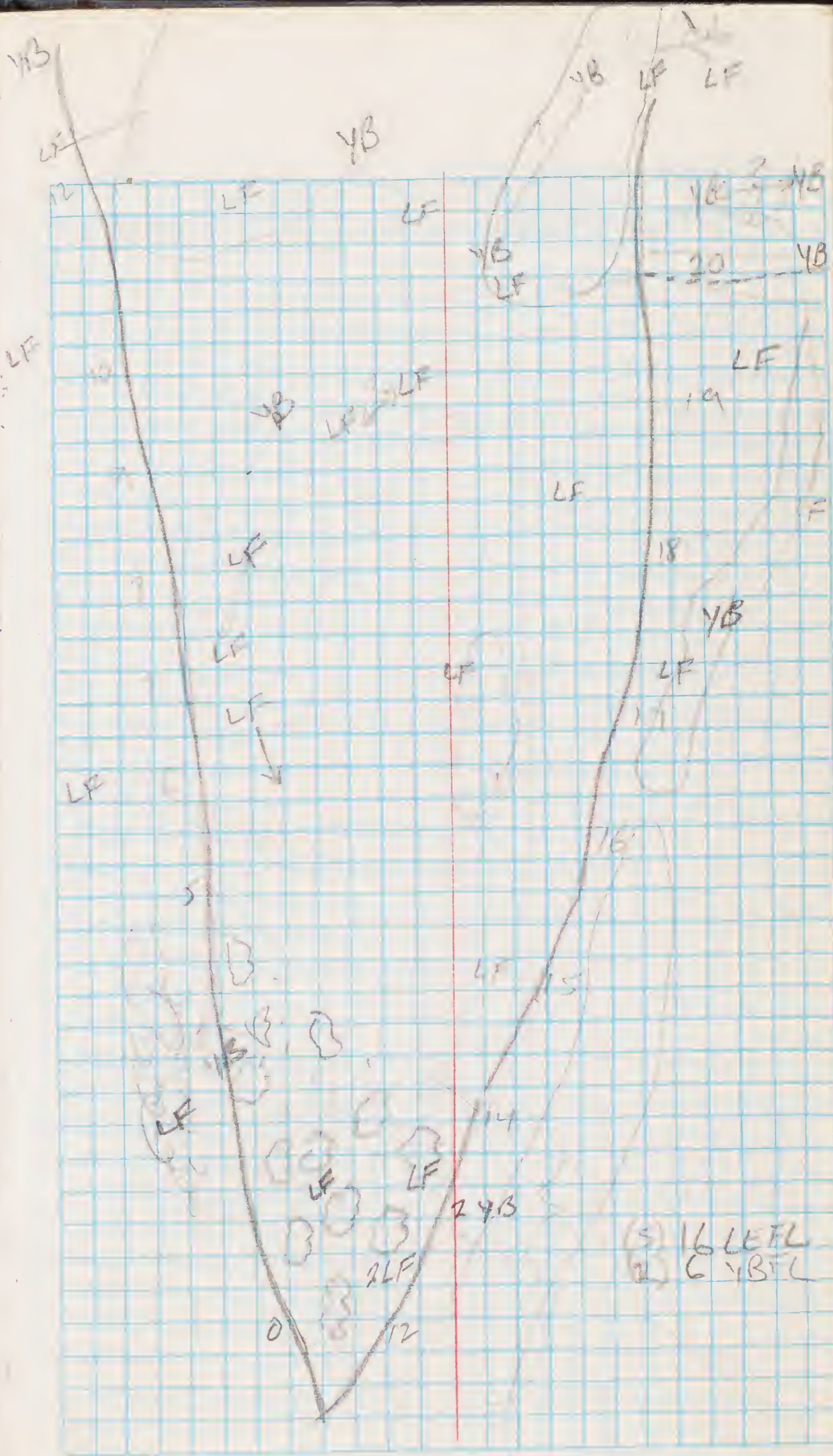
White Bellied Wren

17.4 1912

C I C A D A S

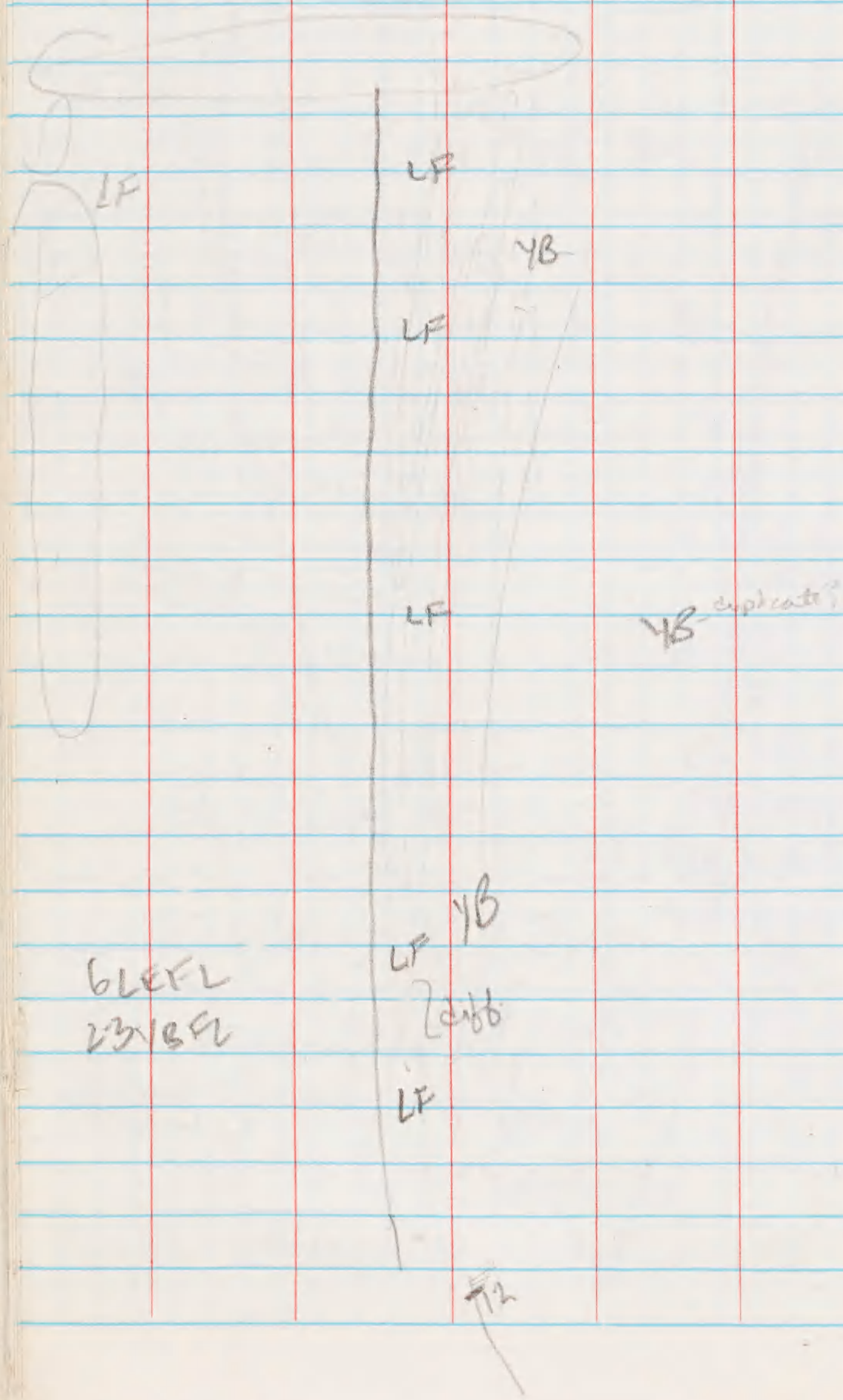
Ruddy Wren

19.2 412



10/7/21

agitated OVEN after LEFT playback  
LK responding to YBZL + vice versa



# BMFIDONAL PLAYBOOKS

Exp min  
2

Practice

500 to 500

3

2

①		Edwin	
②	min 25m	1000m	
III	III III		C/G III
C III	IIIIII	III	
	III	III III	
		IIIIII	
		III	

Bmp Plan

10m

2

3

2

30" II

III

1000m

Plan

3

2

TS 1

AC III

III

IIII III

IIII III

IIII III

4

IIII III

IIII

TS 3

AC

III

IIII III

III

500m III

IIII III

alternate min & Plan evenly  
Indicate approaches

TS IIIII III  
III

INS OS SECTION

Exp 2

3

2

TS 1  
AC III  
1

III

IIII III  
IIII

Sp

M

TS III

IIII III

IIII

1	2	3	4
Top 5			
18 C 5111			
111			
S	20m spp	11	11111
C	18m ap	11	111

2nd time same spot

18	55 spp	11111	11111
	11111	11111	11111
	11111	11111	11111
	11111	11111	11111
	11111	11111	11111
	11111	11111	11111
	11111	11111	11111
	11111	11111	11111
	11111	11111	11111
	11111	11111	11111

→ DO Emp. Flow Survey in Tardis  
mechanisms for balance habitat  
requirements of flow like veg. structure  
only low display flow type

## MARCHON SURVEY - Loma

12 Dec

XVI

12 feet high dense  
4.5 " " up to 100  
71 scrubby (small)  
71 scrubby (small)

21 OCT 91 - ARROYO MARICOPAS  
- Loma side of Boca de Chiquil

① Tall Tree Strip ~ 1 Ha - 2 pts  
700' x 30m

more area as  
it continues as shorter growth  
- now have as many faceted  
points as we want

② Further UPRIVER  
Short 20 growth  
at least 2 pts Tall Shrub

Now have  
2 Arroyo Systems Chapel

30 F  
30 20  
20 S  
70 C  
60 Arroyo

MANCANA ca de Rancho Pancha

- ① Mancana by approx 1 Ha  
- could contain 4 points  
- some 20 growth trees w/ various strata 13, 14 m high

② Area de la Cua de B+B

- 1/2 ha
- Larger forest trees
- maybe 2 pts
- transient already in place

③ Small agro system 35 x 10 m

- shrubby growth
- some 20 trees
- more or less open

④ 100 m x 30 m

short 20 - Tall 20 growth

Ca Chonello

⑤ Further up river - actual 20 growth

- 100 x 15 m
- Similar to undulating pasture
- one point only - very dense stand
- small canopy

in between next time

⑥ GRAN MANCANA to Right

- YBFL on edge
- 20 growth old
- no big trees
- many arroyos
- ~ 10 Ha (cf. Pancha)

NO ↑

⑦ Smaller Forest Mancana side

- 100 x 25 m - 12 corner
- thinner - less dense
- part of GRAN mancana
- high trees 25 m - old 20 g
- 1 point - to compare spp. comp.
- can lead from gran mancana bridge to gap to smaller mancana

⑧ COMA DONITA - (5) 100  
After fisher →  
20 Forest patch

- milpa / actual buffer
- YBFL

MANCANA 20 REPOST SITE

RANCHO PUERTO RICO

- ⑧ Potrero muy hondo  
- 75 m x 50 m  
- adjacent to big patch

620-915

leaf out clear

14 AUGUST

10/10/0

Magnolia h	19.7	6R	3/15
Bentall h	19.9	9R	
Ch. Hb. Oropendula h	19.5	0.0	
Leard Ph h	19.3	13L	singing
R.C. Ant Tan h	18.7	10L	
Wh B. Wd Wren	18.5	20L	
1/3 Ph h	18.2	6L	7/13
Leard Gunt h	18.2	17L	
Ovenbird s	18.7	00	in patch
HT Ant Taney h	18.3	12L	forming
LEFL h	17.6	8L	
VBFL h	16.9	7L	

MEALY PARROTS

Green Jay h	16.5	20L	16.5
Colibee	singing	last high	Night Wren
LEFL h	16.1	7R	singing
1/3 FL h	15.9	15R	4/13
Attila h	16.2	11L	
Long tail Hermit h	15.6	4R	
Spatebill h s	15.2	3R	
Little Hermit s	15.4	0.0	
Mealy Parrots h s	14.8	8L	32/155
Gratcatcher h	15.1	16R	
YDFL h	14.5	18R	
h	14.6	12R	
LEFL h	14.1	19R	singing
Long tailed Wren	14.3	5R	

Balance garter  
Balance of food and  
amount of animal data

White Bell Emerald s

15.9 00

Redstart s	13.2	7R	7/11	GAP
Gratcatcher h	13.8	3R	7/10	
Leard Gunt h	13.8	17R		
VBFL s				
B. W. Warbler s	13.7	11R	6/11	
Spot Bre Wren				
Canadee s	13.5	9R		
LEFL h				
2 RE Vireo	13.7	11R		
Clock				
2 Mont Orop s	13.4	3R	29/5	
LEFL h	13.1	15L		
Whitethro L	13.7	18R		
10 MEALY PARROTS	12.7	0.0	22/28	
R.C. Manakin s	12.9	6L		
LEFL h	12.1	7R		
Redstart h	11.2	15L	15/12	
T.C. Gunt h	11.3	17L		
R.C. Manakin s	11.2	5R		
LEFL	11.5	10L		
LEFL s.h	10.2	7L	7/22	
1/3 FL h	10.7	7R		
HT Ant Tan h	10.7	17L		
1/3 FL h	11.3	8L		
2 RE Gunt h	10.2	15L		
Maya s	9.7	16L		
Leard Gunt h	9.7	10L		
Little Hermit s	9.5	00		
1/3 FL h	8.7	3R		
1/3 FL h	8.5	10L		
Wh B. Wd Wren	8.2	13L		
Leard Gunt h	8.1	16L		
Mealy Parrot s	7.9	12L		
1/3 FL h	7.6	7R	Gap	
Leard Gunt h	7.2	13L		
Leard Gunt h	7.7	5L		
R.C. Manakin h	7.4	7R		
(White Thro)				

2 Dusky Antbird	♂ ad	h	7.3	5R	
Magnolia	h		6.9	9L	
Tanager	♂ ad		7.3	7R	
R. T. Ant Tanager			6.8	6L	Black
White Euph	♂ ad		6.8	0.0	
Lower Gnat			"	"	
J.C.	"		"	"	
Paragait	♂		"	"	
B.W. Warbler	♂ ad		"	"	
White Tanager	h		6.8	20L	
R. T. Tanager	♂		6.9	5L	
Y.R.P.	h		6.5	12L	
L.B. Gnatcatcher	h		6.7	8R	
No Oriole	♂ ad		6.7	2L	13L
Wood Thrush			6.4	8L	
Starling			6.3	17R	
Y.R.P.			6.1	17R	
2 Masked Tanager	h		5.6	3R	9/10
Chat	h		5.7	13L	
Y.R.P.	h		5.5	16R	
Y.R.P.	h	Red	5.6	18L	
Bentbill	h		5.4	6R	
L. Gnat			5.3	8L	
Wh Br W. Warbler	h		5.3	3L	
B. T. Ant Tanager	♂ ad		4.9	0.0	
Brown Tanager	♂ ad		4.9	7L	
Social Fly	h		4.9	2R	12/13
Bentbill	h		4.7	13L	

Linn. Cat. Fishes 48 12R  
 Dusk Cap Fly 3.5 10 15/17  
 Redstart 2.1 7R  
 1300 1.9 20R  
 2 Trop 0.7 3L

---

Inspector 0 R - Nation  
 15m 10 L

SPA 3x5 III  
 Snail 11 br up  
 Salamander 10 10/15 10  
 Snail 3 br up

SPB 3x7 III  
 Snail 3 10 br up  
 Salamander 12 br 10/15  
 " 5 " down  
 Lep. larvae 12 10/15 10  
 Ostrich 13 10/15 10

SPC 11 5x5  
 Snail 6 10 down

SPD 1 2x7  
 Snail 4 br up

SPE 1 1x5 II

Inga 3x5 II  
 Salamander 3 10/15  
 Salamander 11 10/15

SPF 3x2 II  
 Dusk 4 10/15  
 Snail 3 10/15

SPG 4x9 III  
 Snail 2 10/15

SPH 11x11  
 Snail 5 10/15  
 Salamander 3 10/15

SPI 11x7 I  
 Lep. larvae 2 10/15  
 Snail 6 10/15

SPJ 1 5x9  
 Salamander 5 10/15

605-9:05

CANADIAN

White-bellied Emerald h	19.9	11L
Sp. breasted Wren h	19.3	3L
YBFL h	19.3	13L <sup>10/20</sup>
YBFL h	19.3	15R
Wilson's s	19.7	6R
Redstart h	19.5	14R
Chert Siskin h	19.7	6R
Black-ch. Warbler s	18.7	16R <sup>10/20</sup>
YBFL h	18.6	15R
Ch. Cat. Robin	18.3	20L
YBFL h	17.8	4R <sup>12/13</sup>
Greenish Elaenia h	17.5	14R
Chert Siskin s	17.8	10L <sup>20/22</sup>
Magpie	17.2	13L
Wilson's s	17.8	8L <sup>22/24</sup>
Ovenbird s	17.2	0.0
Wooded s	17.6	5.1
Kentucky s	17.5	0.0 <sup>Exhausted</sup>
YBFL h	16.7	10R
White-bellied Wren h	16.4	5R
Summer Tanager s old	16.6	14L <sup>7/9</sup>
Red-b. Ant. Tanager	15.8	10L
Brown Jay	15.2	17L
YBFL h	15.1	13L <sup>8/10</sup>
Sp. Br. Wren h	15.8	10L
Thrush-like Manakin h	15.2	5R

Dusky Antbird s h  
Braz. Antbird s h

Redstart h	14.5	10R <sup>21/23</sup>
Chert Siskin h	14.6	20L
Bl. Ant. Warbler h	12.2	13L
Redstart h	11.8	14L
Thrush-like Manakin h	11.0	4L
Panama s	10.8	20R
YBFL h	10.2	4R <sup>9/12</sup>
Wilson's s	10.1	18R
Sp. Br. Wren h	9.8	20R
Thrush-like Manakin h	9.5	15L
Wilson's s	8.4	10L <sup>23/26</sup>
Redstart h	8.3	17R <sup>10/22</sup>
Red-b. Ant. Tanager	8.2	20L
YBFL h	8.7	17R
Wilson's s	7.9	10L
Sp. Br. Wren h	7.7	7R
Brown Jay s	7.5	6R <sup>20/30</sup>
Wilson's s	7.7	8R
Redstart h	7.9	5R <sup>29/30</sup>
Wilson's s	6.7	6R
Wilson's s	6.8	18R <sup>1/5</sup>
Wilson's s	6.3	18R
Wilson's s	6.4	10L
Wilson's s	5.5	20R <sup>20/27</sup>
Wilson's s	5.5	20L
Redstart h	4.8	10L <sup>14/16</sup>
Wilson's s	4.9	18R
Wilson's s	4.9	17L
Wilson's s	4.8	10L
Wilson's s	4.7	10L
Wilson's s	4.3	5L <sup>1/12</sup>
Wilson's s	4.4	17L
Wilson's s	4.1	18R
Wilson's s	4.1	17L
Wilson's s	4.7	10L

Kentucky 46 92  
 Wilson 6L 7/2  
 3 Mockers 4.6 5L 20%  
 Redstart S 3.0 8R 10/28  
 VBC h 3.6 15L  
 Yellow Oriole 1.8 12L  
 Wilson 2.5 7L 1/2  
 2 Yellow Euphonia 2.2 1AL  
 Yellow Warbler 1.8 18R 10/1  
 VBC S 1.9 5R 3/4  
 S 1.5 00 50/100  
 Wilson 1.6 7L  
 Dyer 1.4 10R 1/2  
 Wilson h 0.5 8L  
 VBC h 0.5 5R

Cool 675  
 Post 11/11/14  
 LD's PORRERO 10/12/91  
 VBC h 19.9 7R grass  
 Wilson h 19.5 4L 0.5/2  
 BSG S 19.7 2R 1/2  
 CIT h 18.5 17EL grass  
 Yellow W. S, h 17.9 19L 1/2  
 Canada S  
 OGB Sparrow  
 LEPL h 17.8 17L  
 2 VBC S 18.2 13R  
 LEPL S 17.4 2R 3/2  
 CIT S 17.7 1L 1/2

Check same as Mexican  
 same as 15

Y Euphonia 17.2 2R  
 VBC h 16.9 10L  
 VBC h 17.2 12R  
 LEPL h 16.8 19R  
 2 VBC 16.1 15R  
 2 VBC  
 2 Crown Col Tan 15.8 11R  
 LEPL S 16.1 17R 2/3  
 Wilson 15.7 6L 3/8  
 Blue Grosbeak h 18L  
 Redstart's nest 15.5 8L 4/8  
 LEPL 15.1 7L  
 Mourning Warbler 15.5 10R 2/2.5  
 Blue Grosbeak h 15.1 9L  
 Wilson 14.1 7L 7/8

R A 1  
 615 - 905

615 POTRERO 10/13 Cloudy  
 Blue Grosbeak 19.7 5L 2/2  
 VBC h 19.1 18R  
 BSG h 19.6 8L  
 W Col Seed S 19.3 15R  
 VBC h 19.5 6L  
 Wilson h 18.6 15L 0.5/2  
 LEPL S 17.7 10L  
 CIT h 17.9 18L  
 2 VBC S 18.1 16L 0.1/1  
 2 Wilson's S 17.9 18R 0.1/1  
 Canada S 17.4 20L  
 VBC h 17.7 5L  
 2 Y Euphonia 17.7 11R 1/2  
 VBC h 17.6 12R  
 VBC h 17.5 9L  
 VBC h 16.5 5L  
 CIT h 17.2 10R



Tepic 77

Max grande de flamenco

No more pico narajo

No more anillo

Three cups distinct in  
las alas

Much smoother coloration than  
flamencos

No more bicolor mucho

Three anillos in wing distinct in  
el estomago

May 15 Oct 21 - 2.0

May 15 Oct 21 - 6.5

May 15 Oct 21 - 6.6

Yellowthroat 15 Oct

Cacao

⑨ Long strip - 400 x 35m  
- upper end of spectrum some  
unice 15 HA

⑩ Smaller strip in foreground  
- shaded  
- Heliconia, Scaevola  
- not very isolated

Need to know history

MAX POINTS

2 1 pt

5 4 point

10 5 points

14 1 pt

2 1 pt

Placer

Channel

Reluctant

10 set scrubby area (15 pt)

10 14 - 2 20

235 pt.

⑪ Small 1/2 20 forest patch below  
5 7 HA strip  
- connected to main big strip

⑫ The 20 Forest Muncher  
- behave 11 - No 11

⑬ Scrublance patch

- behind big sheep
- \* - leads into extensive forest through

uphill from scrubby  
row

UPLAND FOREST 10/17/91

1. Build up the city 12 re

Handwritten: 0.2	812	9	Good
------------------	-----	---	------

seiden 0.3 100

Manuscript 09172

Swain Hill	10	50
------------	----	----

13	71
----	----

Order	Amount	Unit	Price	Total
100	100	100	100	100

Brookville	15	72	Low
------------	----	----	-----

---

1515	Tracy	h	1.5	2.0
1520	David	h	1.5	10.0
1525		h	1.8	17.0
1530	The	h	2.3	20.0
1535	alt	h	2.5	2.0

$\frac{1}{2} \times \frac{1}{2} = \frac{1}{4}$

RTA	10000	2.7	50
RTA	10000	3.0	50

6.  $\frac{1}{2} \times \frac{1}{2} = \frac{1}{4}$

At 1000 ft	2.2 00
At 2000 ft	3.6 00

Overland in 1814

W. D. H. H. H. H.	4.4	2
W. D. H. H. H. H.	4.4	28

SR DATE: MON 15 SEP 1971

[illegible]

04/11/2012

[illegible]

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100

1.  $\frac{1}{2} \times \frac{1}{3} = \frac{1}{6}$

[illegible][illegible][illegible]

1.  $\frac{1}{2} \times \frac{1}{2} = \frac{1}{4}$

\_\_\_\_\_

9.5 176

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
---	---	---	---	---	---	---	---	---	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	-----

arrival date 30 May leaf height 10 cm?

GC Warbler h	10.2	9R	Gaps
Wood Thrush S	10.2	6R	9/19
Brn Saltator h	10.2	15R	Gaps
Brn Warbler S	10.2	15R	10/19
Wood Warbler h	10.2	14R	
PC A Tanager h	10.1	18R	
YBFL h	11.1	10R	
20B Euphonia S	11.2	6R	3/23
RTA Tanager	11.5	12L	
W. Wren h	11.5	13L	
LB Gnatcatcher h	11.8	7R	
2B Wren	12.1	20R	
2GC Warbler S	11.9	8L	
7C Greenlet h	12.1	1L	
WB Woodpecker h	13.1	6R	
Wren h	12.5	7R	
WC Warbler h	14.5	10L	
25W Wren h	13.8	10R	
Least Warbler	14.5	5R	Gaps
Maya h	14.4	8R	7/20
Leucis Wren h	11.2	6L	11/2
YBFL h	14.3	15L	
Redstart h	14.6	17L	Gaps
W. Wren h	15.1	16R	
WB Wren h	15.1	10R	
2 No Oriole			
Wood Warbler h	16.1	19L	Gaps

Overhead h	16.5	15R	Seen
WB Warbler	13.2	11L	
YBFL h	17.9	12L	
YBFL h	18.4	10L	
YBFL h	18.5	6L	
Aracari	19.1	0.0	20/20
Green Tanager	19.2	14R	
Green Capuchin h	19.4	9L	
YBFL h	19.6	10L	
Overhead h	19.8	12L	
<hr/>			
B U G S			
<hr/>			
A 5x12 11	11M	9	Grey h
B 5x12 11		"	"
A 5x12 11	2 Spade	4	br
C 4x15 11	Spade	8	"
D 6x12 11	Spade	2	"
F 6x12 11	Spade	6	yl
I 7x10 1	2 Spade	7	br
B 5x12 1	"	4	yl
H 12/6 1	11M	4	br
S 3x7 11	"	4	wh
S 7x10 1	2 Spade	8	yl
H 7x10 1	"	4	"
L 12x12 1	Spade	4	yl
	Colaptes	7	yl
	"	5	yl
	"	15	yl
	"	2	yl
	"	4	yl
	"	7	"
	24 House	2	wh
	"	"	"
	2 Wren	5	br
	Wren	5	yl
	11 House	2	yl
	Wren	7	yl
	24	4	yl

1L

20N

A 3/7 II	2.5 m/s	5.5
B 6/7 II		
C 5/7 II	Colony	4.5
D 1/5 II	2.5 m/s	6.5
E 6/7 II	Spoke	5.5
F 6/7 II	Spoke	4.5
G 6/7 II		
H 5/7 II	Spoke	10.5
I 2/7 II	Spoke	5.5
J 1/7 II	1.5 m/s	3.5
K 5/7 II	Spoke	5.5
L 4/7 II	Spoke	5.5

FORNUT DATA

17 OCT

SUMATRA 23 SA? at 1m Cacao Plant Edge

- 1h a boundary area, not eating fruit

white necked Puffbird

Blue-throated Hummer? "ink" - dif call

than other hummers

Blue br tail - white edge spots

Large, straight med length bill

Greenish upper parts

Tawny lower belly

BC 7/8 Lu fr landman at Riv. Edge

Dusky Antbird - Riv Edge

Foggy early A.M. - Sunny

605 605

MILPA

10/21

Sp Br wren h	0.4	13R	2/4
Sp Br Tam h	0.2	8L	2/3
Ruf Hum s	0.2	3L	2/2
YBC h	0.3	16L	1.5/2
Manag h, s	0.3	9R	2/4
C/T s	0.3	5L	1.5/2
Cash h s	0.5	9L	2/5
Redstart F s	0.5	9L	3/5
4) Small Fly s	0.7	10R	10/6
Ruddy Spoke h	0.7	15L	0/5
C/T s	0.1	7L	0.5/0.5
YBC s	0.9	3L	0.5/0.5 chased
LBPL h	0.6	13R	1/4
YF Euphon s	0.7	1R	4/5
Dist C Fly h	0.3	3R	
Yell warbler im s	6.9	10R	4/5
C/T s	1.5	20L	1/1
	1.0 - 2.0 R	Started a Run	
W. Fly s	2.7	10L	
C/T s	1.8	10L	1/1.5
C/T s	2.5	11L	2/3 Fall
Blue Fly s	2.2	17L	
R. Hum s	2.5	9L	
Sp Br Tam s	3.3	11R	4/5
YBC h	3.1	20R	0.5/2
Orch Ori s	3.9	17L	3/5
Yellow-faced Ori s	4.4	10L	3/5
C/T s	0.5	1R	1/2
Wilson's im s	0.5	1R	1.5/3
YBC h	0.9	20R	3/5
YBC h	5.5	13R	0.5/1
C/T h	0.1	10R	
Ruf Hum s	5.5	3R	1/1
1) Mel Fly s	4.9	6R	2/3
Wilson's s of ad	5.5	9R	3/5
LBPL	5.9	20R	0.5/1
C/T s	5.9	9L	0.5/1
Wilson's Fly s	6.9	4L	4/5
C No Ori s			5/5

Black bellied  
and dark yellow

Vill Wren h	6.3	7L	2/1
Flocky bnd Dove	7.4	9R	1/2
YRC h	7.2	12R	6/10
LEFL h	6.9	17R	"
CYT h s mo	7.5	7L	0.1
PRG s	7.5	9R	0.1
2 Orol imo	7.7	12L	
whl cat seed s	7.9	16R	
Wilson s	7.9	12L	1/3
2 Orol s	8.3	14L	"
CYT mo	"	"	"
2 Trop Kingbird s	8.7	20R	6/1
Red Black s	"	"	"
2 Redw/Black s	11.3	3L	"
Parula Crane s	11.4	3L	"
186 int s	12.3	11R	1/1
186 - black siskin			
186 h	12.2	13R	"
OYT h	12.2	15R	"
LEFL h	12.5	18R	1/2
186 h	12.6	3L	1/2
BBG s	12.6	3R	1/1
GB Ani s	12.9	18L	3/5
2 Ind bnd s	13.3	3L	1/1.5
Wilson s	"	"	"
591 Red bnd Dove	13.8	4L	3/1.5
591 Blue bnd	"	"	1/4
White Wing Dove s	"	"	"

JOHN Scapery bank  
WILS - sharp chip note  
LOUIS w AT - Don Est coffee ground by me

Prof. rail hum	13.6	1L	1 1/2
CH h	14.6	20L	0.1
VR h	"	19L	"
2 (LEFL)			
from before			
Cannon body fly h	15.5	5R	3/2
Whiskered bnd s	15.8	4L	
LEFL h	17.6	16R	
Cashbird h	17.8	11L	3/5
2 OYT s	"	"	3/5
WCS	"	"	3/5
Yellow s	"	"	9/8
VB siskin	"	"	"
RT Hum s	"	"	"
2 St. Redw/Black s	"	"	1/5
2 St. Redw/Black s	"	"	3/5
Plum for bnd Dove?	"	"	"
— quail			
Wilson h	"	"	3/5
Wilson h	"	"	4/5
Wh. Red siskin s	"	"	1/5
CYT h	18.8	16L	0.1
Banded siskin s	19.3	1L	2/5
LEFL h	19.4	15R	
Wilson s	19.8	15R	3/5
Wilson s	19.5	6L	2/5
Cashbird s	19.7	11L	3/5
(Great L-hawk)			

Point  
Surf 7h Scapery GI Front River Edge

21 OCT Loma Puma Polaris

No Or ♀ 3/8 Frms 6x20 Chest

Lb → KdD Look Air

Probe Curled leaf Lb

2 Lean Chestnut

BTNW Ha Lb Inga 5/2 Platan  
No Lb " "

♂/hell chasing ♀ hell  
" " Tennessee

also BTNW in tree  
chase Red Leg Honeycreeper

No Or ♀ 7/8 Inga  
Probes Lt into netlines  
G1 Lt, Lb

No Or ♀ 7/8 Inga  
2 Lb

21 OCT Loma of Playon  
BTNW in tree 17/17  
150 HA

Gr. Phe

Hookbill Gt

Redstart!

Redstart

Y.O. Flyc

Lesser Gnat

Maggot

11 Brown Warb

Pence

RT Hum

Emp Flaw

WOTB

Hookbill Gt

Social to wing

Lin Widge

RT Ch Widge

BTNW

Kent

Hooded

RL Honeycr

Vel Widge

Roadside Widge

Chase Sndet

Sooty A III

OB Euphonia

WHITE HAWK

Broad Wing Hawk (2)

Tenops

Co. Widge

Masked Widge

Brown Widge

Pale Widge

RT Ant Widge

Blue & Green

Ruf Mourner

N. Bay Fly

Dusky Ant

Tawn. Cr. Widge

W. Widge

REFORMA AGGARIA 23 OCT

① Shade Habitat to NW  
- add to shade habitat  
points of Chiquil (Ed's Park)  
Playon, & Loma (ca. Don Jorge)  
- many points

② 30 x 10 Met Shrub Area NW  
corner

③ More Shade  
- long narrow patch of shade  
- many points

④ More Shade - upper points

C

① Further up river ca. Stable  
max shade - 2pt

② Higher up from stable  
one clump - 1pt

### LOPEZ MATED

① 1/2 pts of Lopez Mancham  
→ to Met 20 gwh

- Shade area on ridge 1pt

② 2/3 pts - scrub to met 20 gwh  
→ anoyas - half moon - 12

③ 2/3 pts - Shubby growth  
on the way to the stable  
pts toward S side direction

### Cmp Playback

→ DO minims & flauting in  
succession  
- & others can wait

→

24 OCT 91

No Or 3 3 Lead Dead Leaf No Dig birds  
No Or 1 1 Fr 1cm diam 10 gwh

Bow B/B/S Singing ca Met 5

Reds in ♂ Shrub patch

Ad. ♂ May (Sole clump spot) in gwh

2 min - intro  
3 " - taper  
9 " - latency

Approaches  
10m  
5m  
Fly over

Habitat  
Location  
Point

1

LF

LF

Date  
Playback Tape  
LF<sub>3</sub> YB<sub>1</sub>

3

4

Approaches  
10

FLY OVERS

# EMP PLAYBACKS

25 OCT ST TIME 640. Clear

Habitat: Scrub (minimus) ca Ed's Pt.

Point 1 Playback Tape: Min.

	LF <sub>1</sub>	LF <sub>2</sub>	YBF <sub>2</sub>
2			
call			
call			
3 call			
4			

Point 2 Playback Tape: Flv 700

2 LF<sub>1</sub> LF<sub>2</sub> YBF<sub>2</sub>

call

NADA

Pt. 3 P.T. Min. Time 715

2

3

4 c ||||

10:05

Minimus approach 10m after 11:00

Pt 4

P.T. FLAV

Time 730

NADA

Pt 5

P.T. MIN

Heavy Sun

Time: 745

	LF <sub>1</sub>	LF <sub>2</sub>	YBF <sub>2</sub>
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			

5 minutes min(0) → 6m after min 2 → 10m

Pt 6 P.T. FLAV Time 805

2 LF<sub>1</sub> LF<sub>2</sub> LF<sub>3</sub> YBF<sub>2</sub>

Eschscholus on  
a xanthoxanth  
in minimus  
Eschscholus on  
del minimus

chick  
bunk  
Lot - 1:50  
10:05



Bda Polmero 25 OCT

15m	18/20	2 Ha	Lb	Chst/Plomer
For imat		2 K+D	Ac/L	

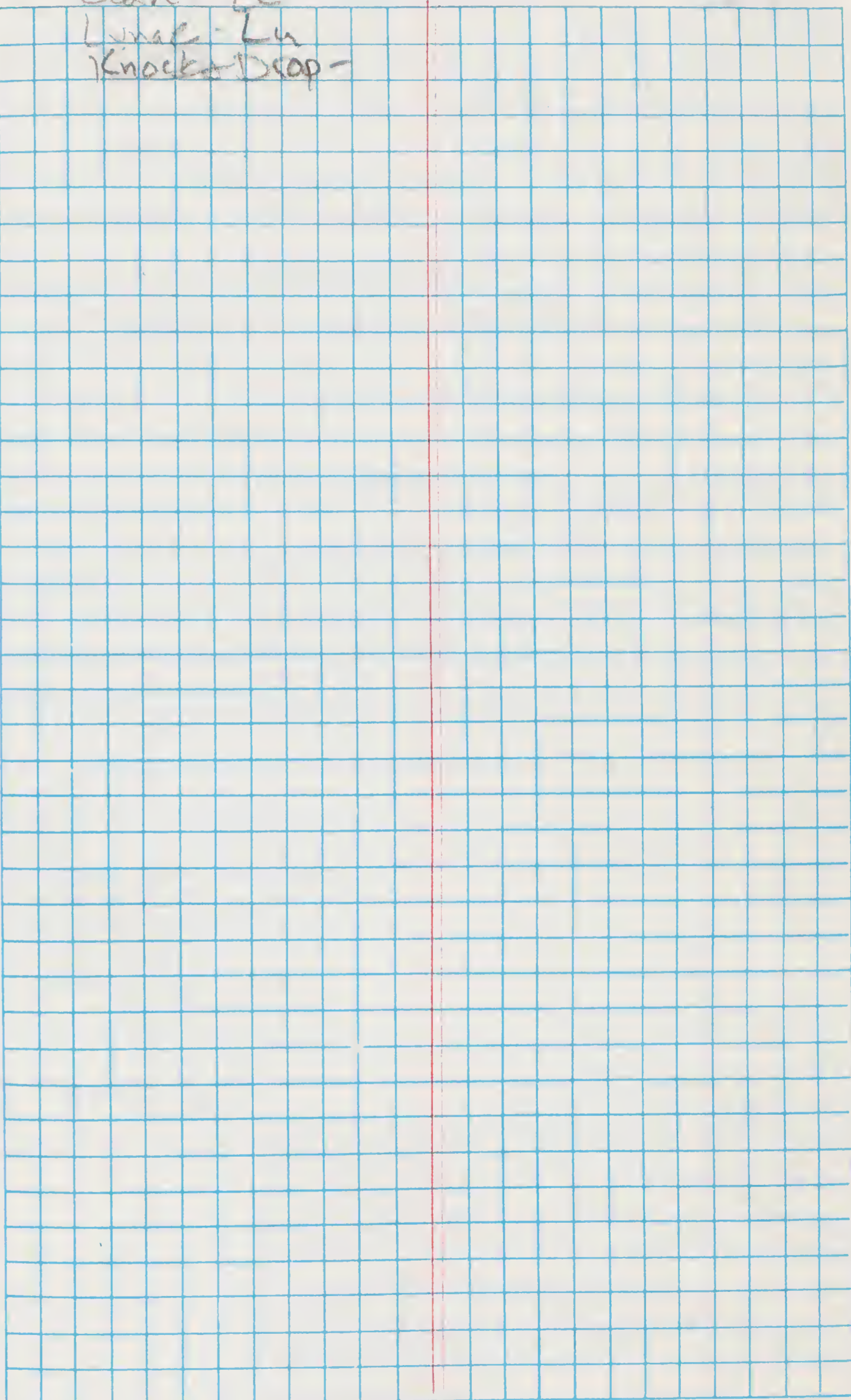
26 OCT Arb Post Edge Tall 20 growth

9/15	SerA	ada	Sa (return) at 2m	Lb Chst
2/4	"	"	"	"
"	"	"	Le 0.3m	Lb
"	"	"	Sa 0.5m	Ac
4/2	"	"	Le 0.2m	Lb
9/9	"	"	Sa 0.5m	Ac

20 growth  
Cecr chimp  
20 growth  
in 3 weeks

Hang - Ha  
Leap - Le  
Sally - Santa Sa  
Glean - Gl  
Lean - Le  
Luna - Lu  
Knock - Drop -

Rufous Mourner  
20 Forest #10



---

C 51 1111 1111 1111

1437

	LF <sub>1</sub>	LF <sub>2</sub>	LF <sub>3</sub>	LF <sub>4</sub>
2				
		P.T. LF <sub>2</sub> LF <sub>3</sub> LF <sub>4</sub>		
		i.e. up some vertical so		
3		p. 2 - not good		
		no more data		
		some tracks		
5				
D+9		P.T. FLAV	724	
2				
3			Director observed	
	SAR	(SAR) SAR	LF <sub>3</sub>	
LAK	O.O.F.	LAT O:18		
5		LAK 4:40	Sim Hammer	
		W/L 6:05		

[illegible]

SUN By 8:00

819

Pl 7

Plast. Mn

Handwritten notes on lined paper, organized into columns labeled  $LF_1$ ,  $LF_2$ ,  $LF_3$ , and  $LF_4$ .

**Row 2:**

- $LF_1$ : 2 1
- $LF_2$ : An arrow points from the top of the column down to the text "8  $\rightarrow$  4 m" and "2m above".
- $LF_3$ : "horizontal slope"
- $LF_4$ : "mining debris"

**Row 3:**

- $LF_1$ : "one-belt"
- $LF_2$ : "LAT 0:10"
- $LF_3$ : "LAT 1:30"
- $LF_4$ : "Distance to last capstone 100m", "hole placed not near any capstone", "used in area of 10m x 10m", "Small debris"

**Row 5:**

- $LF_1$ : "STOP"
- $LF_2$ : "11"

2.8

Play Flip

835 30

Handwritten notes on lined paper:

2

3 1000 5840

LAT 2 40

LAT 2 40

5

Handwritten notes on the right side:

White red eye  
top of tot. bird

Could not see a second who  
-hope just yet - a group of friends

854 30

19

9-11-11

[illegible]

2-10

Y.P.T. 7A

911 30

When in SCOTONE, if use F2B FAST  
 edge and do playbacks 1-2m into  
 forest. Minimus will go into forest  
 but flow won't go into pasture.

Don't start a playback in a  
 location where within 20m  
 of a bird already.

Try models??

Read three papers

Keep up w/ data

Empirical

Point Counts

Following Data

Playbacks

(Netting + followings)

- 20% forest edge stations

	Min	Flav
Min	2/10	1/5
Flav	8/10	4/5
	4/10	9/10
	10/10	50/10

## Pt. Counts - Methodology

3 - Silence

3 - Empirical

1.5 Flav

1.5 Min

4 - Silence

25m radius

1/10 (1/10)

25m  
 20m detection  
 distance

- only for

1/10

- only do parentheses  
 for others

- for groups of birds, try to determine  
 # of birds (e.g. 10 birds at once)

- flag the point for vegetation  
 sampling

- stratify forest sampling

- purposefully seek out  
 gaps

20 gaps

100 prime selva

- make sure 25m covers the gap

- in manichans - note birds  
 which are outside the manchan

(1) 25m

- Forest Manchan - use Eduardo

- veg sampling - see notes

- focus on netting & sampling  
 MIN. 52% following for 1  
 parenthesis

- by closure - just check them out  
 and then

# EMP TRIALS Forest (Canton) 28 OCT

P1 - 2 YBFL - called in 5 min  
period but were - 40m away  
- no approaches

P2 - 2 YBFL - no approaches 75m

P3 - NADA

P4 - Long dist approach 50m → 24m

YBFL: 12m YBFL - app 21m 8/12

P5 - NADA

P6 - YBFL, - long dist app  
50m → 22m

P7 - NADA

22

22

22

22

22

P8 - YBFL, 50 → 35m

YBFL, 50 → 15m

YBFL, 50 → 25m

P9 - 2 YBFL - no approaches

P10 - YBFL, 20 → 0m 17/20

" 40 → 25m

" 2 - no approach

" 3 - no approach

28 OCT - Golden Crest Warbler PE

9/10, 12/10, 14/10, 16/10, 18/10, 20/10, 22/10, 24/10, 26/10, 28/10, 30/10, 31/10

miranda palm 30m

Royal Flycatcher A/R

- 6m on path

Shrike-like bird

manchado Magpy → ca. #3

Royal Flycatcher

Serra 9/10's Poirero

7/12 2 Sa Air ad - 0.5m

20's, 1/2

RS Br Gnatcatcher 12/15 K & Sa 1st Air

Trop. Gnatcatcher

1/1

No Os 15/15 ♀ GI Flower -

Cloudy @ 620  
910

29 OCT Scene PRR 1670

Species	Sex	Weight (g)	Wing (mm)	Tail (mm)	Notes
YBC	h	19.0	17L		1/2
CIT	h	19.6	8L		0.5/2
Cath	h		19.7	18R	
CYT	in ♂	19.8	7L		3/4
Yellow	♂ ad	19.4	13L		1 1/2
2 Masked Tern	s	"	"		"
LEPL	h	19.4	7L		
CYT	cor	19.5	3L		0.5/
YBC	h	19.5	7R		0.5/
CYT	♀	19.6	7R		1/1.5
Yellow	♀	19.7	4R		1/1
LEPL	h	18.8	1R		
sp. on wire	h	18.8	18R		1/4
Least	♀	18.8	20R		3/4
Cath	h	18.4	17R		2/5
CYT	h	18.6	14L		
Wilson	♀	18.3	6L		
YBC	h	18.3	3L		
Nashville	s	17.8	8L		1/3
CYT	♀	17.9	9L		1/2
Mary	♂	17.8	8L		2/3
1 B. S. W. Thrush	♀	17.6	7L		1/4
CYT	♀	17.1	9R		0.5/2
Wood Pewee	s	16.5	12L		1/6
YBC	h	16.8	13R		1/2
CYT	h	16.7	9L		
Cath	s	16.7	8R		1/2

Account of the same

CCFL h

Species	Weight (g)	Length (cm)	Wing (cm)	Tail (cm)	Notes
16.7 12R	16.7	12R	2/3	13	
16.3	16.3	3L	2/4	14	Sh. w.
15.7	15.7	5R	3/4	15	Sh. w.
15.1	15.1	8L	3/6	16	Sh. w.
14.1	14.1	7L	3/5	17	Sh. w.
13.9	13.9	8L	3/6	18	Sh. w.
13.2	13.2	10L	2/3	19	Sh. w.
12.7	12.7	10L	2/3	20	Sh. w.
11.8	11.8	8L	2/4	21	Sh. w.
11.3	11.3	5L	1/2	22	Sh. w.
10.7	10.7	4R	10/1	23	Sh. w.
10.2	10.2	3R	10/1	24	Sh. w.
10.9	10.9	18L	2/3	25	Sh. w.
10.6	10.6	8R	1/2	26	Sh. w.
10.7	10.7	6R	1/2	27	Sh. w.
10.9	10.9	3R	1/2	28	Sh. w.
10.6	10.6	1L	2/4	29	Sh. w.
10.7	10.7	0.0	1/2	30	Sh. w.
10.7	10.7	1L	1/2	31	Sh. w.
10.7	10.7	1L	1/2	32	Sh. w.
10.5	10.5	7L	1/2	33	Sh. w.
9.7	9.7	6R	1/2	34	Sh. w.
9.9	9.9	5L	1/2	35	Sh. w.
8.3	8.3	6L	1/2	36	Sh. w.
8.3	8.3	15L	1/2	37	Sh. w.
8.1	8.1	10.5	2/3	38	Sh. w.
8.1	8.1	10L	2/3	39	Sh. w.
8.1	8.1	10L	2/3	40	Sh. w.
8.1	8.1	10L	2/3	41	Sh. w.
8.1	8.1	10L	2/3	42	Sh. w.
8.1	8.1	10L	2/3	43	Sh. w.
8.1	8.1	10L	2/3	44	Sh. w.
8.1	8.1	10L	2/3	45	Sh. w.
8.1	8.1	10L	2/3	46	Sh. w.
8.1	8.1	10L	2/3	47	Sh. w.
8.1	8.1	10L	2/3	48	Sh. w.
8.1	8.1	10L	2/3	49	Sh. w.
8.1	8.1	10L	2/3	50	Sh. w.

C

Species	Wing	Tail	Sex
Chiffchaff	6.8	2.2	♂
Redstart	6.4	4.2	♂
Yellow Warbler	6.2	2.0	♂
Variable Redstart	6.7	6.1	♂
Common Redstart	5.1	0.0	♂
Chiffchaff	4.7	2.0	♂
"	4.5	1.0	♂
"	4.6	7.2	♂
Yellow Warbler	4.4	1.9	♂
Chiffchaff	4.3	1.2	♂
Chiffchaff	3.9	1.1	♂
B/G Warbler	3.7	1.1	♂
Mary's	3.8	1.7	♂
Chiffchaff	2.7	1.5	♂

BUGS 2R

Micromia	5x15	11	Spider	8 yf	10
Willow	3x15	1	Leplone	5 "	"
1.5x6			Spider	6 gr	"
5x20	11		Humpt	6 "	"
Micromia	20x30	1	Coleop.	2 br	up
3x9	1		Spider	5 yf	6
	14 m		"	5 yf	up
			Humpt	3 yf	10
			Dynastop	5 H	up
Horn	3 H yf	6	Sp	4 yf	10
Spider	5 yf	10	Sp	3 gr	"
Hyw	10 or	st	"	3 yf/or	up
12 Horn	2 yf	st/10	Hyw	10 or	10

Mazzy Bk/or Dominion co corall  
- chased her yell at 1st &  
- pushed even further away from  
where hatched

1) all four in the  
 2) all of the  
 3) all of the  
 4) all of the  
 5) all of the  
 6) all of the  
 7) all of the  
 8) all of the  
 9) all of the  
 10) all of the  
 11) all of the  
 12) all of the  
 13) all of the  
 14) all of the  
 15) all of the  
 16) all of the  
 17) all of the  
 18) all of the  
 19) all of the  
 20) all of the  
 21) all of the  
 22) all of the  
 23) all of the  
 24) all of the  
 25) all of the  
 26) all of the  
 27) all of the  
 28) all of the  
 29) all of the  
 30) all of the  
 31) all of the  
 32) all of the  
 33) all of the  
 34) all of the  
 35) all of the  
 36) all of the  
 37) all of the  
 38) all of the  
 39) all of the  
 40) all of the  
 41) all of the  
 42) all of the  
 43) all of the  
 44) all of the  
 45) all of the  
 46) all of the  
 47) all of the  
 48) all of the  
 49) all of the  
 50) all of the  
 51) all of the  
 52) all of the  
 53) all of the  
 54) all of the  
 55) all of the  
 56) all of the  
 57) all of the  
 58) all of the  
 59) all of the  
 60) all of the  
 61) all of the  
 62) all of the  
 63) all of the  
 64) all of the  
 65) all of the  
 66) all of the  
 67) all of the  
 68) all of the  
 69) all of the  
 70) all of the  
 71) all of the  
 72) all of the  
 73) all of the  
 74) all of the  
 75) all of the  
 76) all of the  
 77) all of the  
 78) all of the  
 79) all of the  
 80) all of the  
 81) all of the  
 82) all of the  
 83) all of the  
 84) all of the  
 85) all of the  
 86) all of the  
 87) all of the  
 88) all of the  
 89) all of the  
 90) all of the  
 91) all of the  
 92) all of the  
 93) all of the  
 94) all of the  
 95) all of the  
 96) all of the  
 97) all of the  
 98) all of the  
 99) all of the  
 100) all of the

7. Both 2 same place  
and had left the same time

29 Oct Pablo's Tree in El Estero  
SUTA good vs. fruit

No Orinole 204, 12, 10<sup>7</sup>um 8/25  
Cacao nectar of spring

After a very  
cloudy day  
Sun 8:30

WAD	30 OCT	610 - 915	
W. Bluebird	h	19.5	18L
Warbler	h	19.8	20R
Warbler	h	19.8	11R
W. Red E.	h	19.6	12L
W. Red E.	h	18.5	15L
Red E.	s	18.4	12L 20/21
W. Red E.	h		
Warbler	h	17.5	2L
Hooded	h	18.2	17R 9/28
W. Red E.	s	17.8	18R 17/28
W. Red E.	s	19.5	5R 16/22
W. Red E.	s	17.3	14R 16/22
Red E.	s	16.7	6R 26/29
W. Red E.	s		
W. Red E.	h	18.1	9L 10/21
W. Bluebird	h	17.8	8R 10/21
Tanager	h	17.2	15L 10/21
W. Red E.	h		20L
W. Red E.	h		19L
W. Bluebird	h	17.3	6L 7/13
W. Red E.	s	17.2	8L
W. Red E.	h	17.2	19L
W. Red E.	h	17.2	7L 9/23
W. Red E.	s		
W. Red E.	s	14.9	5L 4/15
W. Red E.	s	14.8	16L 10/25

W. Red E. 13/25 10/22 - 10/21 - 10/20

W. Red E.	W. Red E.	W. Red E.	W. Red E.
W. Red E.	14.8	3L	15/24
W. Red E.	14.3	8R	15/22
W. Red E.	13.5	1R	15/22
W. Red E.	13.3	20R	4/2
W. Red E.	13.1	9L	15/22
W. Red E.	13.1	20R	15/21
W. Red E.	12.8	15L	3/22
W. Red E.	11.9	7L	16/20
W. Red E.	11.9	8R	24/25
W. Red E.	12.5	10R	
W. Red E.	11.8	15L	16/24
W. Red E.	11.8	12L	14/22
W. Red E.	11.3	7R	9/12
W. Red E.	11.7	12R	
W. Red E.	10.3	4L	12/20
W. Red E.	9.2	17R	
W. Red E.	9.1	6R	14/21
W. Red E.	8.8	18L	
W. Red E.	8.8	18L	
W. Red E.	8.4	4L	9/10
W. Red E.	8.4	13L	8/22
W. Red E.	7.8	9L	11/26
W. Red E.	7.3	10L	1/21/24
W. Red E.	6.7	18L	
W. Red E.	6.4	19L	
W. Red E.	4.8	18L	2/10
W. Red E.	4.8	16R	18/25
W. Red E.	3.3	13L	10/12/22
W. Red E.	3.5	7L	2/20
W. Red E.	2.6	17L	11/25
W. Red E.	2.3	15L	
W. Red E.	2.1	5L	10/20

More information about the birds

Huge hole next to pt 3 4/6 1/2 ft  
at top periphery of tree

unidentified	2.4	12	0.3/10
RT Horn	2.4	12	
Swift h	2.4	16R	
① RT Ant Tan	1.8	8L 2 4/8	
Wing sp at	1.8	12L 4/4	Cocoon
Redstart at	1.8	6L 2/1.5	
CSHA	1.6	9L 13/16	
Benches	1.8	7L 2/4	
BPZ h	1.3	19L	
BIH Salt h	1.3	20L	
VB Coc	1.2	16L	
House Wren	1.3	15L	
Chinglo			

① YBC h	0.3	32 12L	new plant
Wilson h	0.2	10R	plant
After answer had rain			

leaf drip

ACH AL	3	CT 9	6/5
① Dark Ant h	19.9	8L	9/5
W. Pin Gosh h	9.7	9R	1/4
Bar Ant h	19.3	2R	1/2
7 BH Salt h	10.3	6R	4/5
① Dark Ant h	19.7	7L	3/6
Pin Beards h	19.6	8R	
Little Horn h	19.2	9R	
① Sp B Wren h	19.6	5R 2L	1/6
RT Salt h	19.4	7L	1/10

unidentified h	19.5	5L	0.3/5
Dark Ant h	19.5	7L	1/2
Dark Ant h	19.3	7L	1/2
Redstart h	19.3	9L	10/13
W. Pin Gosh h	19.4	12L	4/1.2
VB Coc h	19.4	3R	2/11
W. Pin Gosh h	19.1	5L	
L. Wren h	18.9	7L	2/7
Went Wren h	18.2	8R	1/1
Ovenbird h	19.1	6L	1/4
Wood Thrush h	18.9	9/15L	
W. Pin Gosh h	18.7	4R	2/12
Redstart h	18.4	6L	12/12 Cocoon
W. Pin Gosh h	17.9	12R	2/1.2
Sp. Bell h	17.6	10R	
Yellow h	17.3	0.0	1/18 Cocoon
RT Salt h	17.5	17R	
W. Pin Gosh h	17.4	10R	
RT Wren h	17.3	6R	
W. Pin Gosh h	16.6	7R	
W. Pin Gosh h	16.8	5L	
Sp. Bell h	16.7	8L	
VB Coc h	16.8	15R	9/13 Cocoon
W. Pin Gosh h	16.5	15R	1/1 Cocoon
② Chachalaca S	16.2	3R	7/1 Cocoon
W. Pin Gosh h	16.2	5L	
W. Pin Gosh h	16.1	7L	0.3/4
W. Pin Gosh h	16.2	12L	1/2
" " h	15.7	16R	1/12
W. Pin Gosh h	15.4	11R	
W. Pin Gosh h	15.9	5L	2/4
Bar Ant h	15.7	6R	
RT Ant h	15.3	6L	
W. Pin Gosh h	15.2	8R	9/11
" " h	15.1	12R	10/1 Cocoon
W. Pin Gosh h	15.2	6L	1/11
W. Pin Gosh h	15.1	5R	1/11
Redstart h	15.8	7L	10/11
W. Pin Gosh h		25L	5/11

Species	Sex	Wing	Tail	Length
Mourning Dove	♀	7.2	9.1	4/11
② Olive Back Euphonia		7.2	8.1	3/11
③ RT Saltator		11.8	13.8	2/9
④ Common Col Tanager			6.2	7/10
⑤ Y/T Euphonia			3.2	8/11
⑥ S. Rump Tanager			6.1	4/11
⑦ No Oriole		15.2	9.1	7/10
IRC h		14.3	12.2	
S. Rump Tanager		14.4	6.2	8/11
Piedstart ♀		14.4	8.2	7/11
RT Salt h		14.5	13.2	
Violet Sabrewing		14.3	0.0	2/12
SB Saltator		14.3	17.2	
YOT Phc		14.3	10.1	7/10
⑧ Y/T Euphonia		14.3	11.1	8/11
Hooded h		14.5	5.1	
Btu Warb ♀		14.7	6.2	8/11
2 LT Hermit		14.6	3.2	2/12
LT "		14.1	0.0	
Wilson's s		14.3	8.1	9/13
" h		14.1	18.1	
Little Hermit s		12.8	2.2	1/9
Dusky Ant h		13.2	7.1	4/12
Dusky Tanager s		13.9	9.1	9/11
Caribbean h		13.4	9.1	
Ovenbird h		13.4	7.1	25/11
Violet-backed h		13.3	1.2	1/11
Mourning Dove		13.8	2.1	5/11

[illegible]

Bonny h	89	6L	high in regime
Sp. Rump Tanager	92	9L	
Yellow Ant h	85	12R	11/14 Can
WB Cacique h	79	13R	
Sp. R. Ant h	71	17R	
② Sp R. Ant h	71	17R	
Red Ant h	69	1R	1/10
W. Ant h	67	5R	1/5
SW Ant h	65	7R	
③ Yellow B. Ant h	57	1L	0 2/6
L. T. Ant h	55	0.0	
④ WB Cacique h	45	11R	21
<del>Greenish Ant h</del>			
Red Ant h	42	20R	
Little Ant h	42	0.0	
WB Ant h	42	11R	0.5/15
Red Ant h	42	17R	
WB Ant h	38	20R	
L. B. Ant h	37	9L	
Violetaceous ICS	37	10L	2/26
Sulph Rump Fly h	37	6L	1/26
WB Cacique	32	10L	
Banded White Ant h	33	12L	
L. T. Ant h	52	4L	2/02
Red Ant h	29	8R	
③ D. Ant h	24	12R	
L. T. Ant h	19	1R	

S. T. Tanager Fly	1.5	5R	
Red Ant h	1.0	13L	
Yellow Ant h	1.0	2.0	
WB Ant h	1.4	11R	26
WB Fly h	1.3	7L	1/10
Yellow Ant h	1.0	4L	1/10
WB Ant h	0.8	1L	1/10
WB Ant h	0.7	1L	1/10
WB Ant h	1.0	1L	1/10
WB Ant h	0.9	8R	7/15
WB Ant h	0.6	0L	
Banded Ant h	0.8	6L	

R. ICS 2R	Sp. Ant 2	6	gray
5x12 HHT HHT	W. Ant	15	red
4x11 HHT HHT	W. Ant	5	red
4x8	Dipt	5	up
6x11	Sp. Ant	3	up
Rem. Ant 1.5x5	"	5	up
	W. Ant	3	up
	"	2	up
	"	5	up
	"	2	up
	"	4	up
	"	3	up
	Colap	2	up
	Sp	5	up
	Colap	5	up
	Sp	5	up
	Sp	4	up
	Sp	3	up
	Sp	1	up
	Sp	4	up
	Sp	4	up
	Sp	5	up
	Sp	5	up
	Sp	4	up





Active Pt Pt 9  
January

Pt 7 820

Yellow Warbler 1 (1)  
WB Blackbird 1  
Brown Towhee 1 (1)  
YBC 1  
WCS 1 (1) (1)  
BBG 1

→ wash site

Pt 8 853

WCS 1 (1)  
white tail cat 1 (1)  
YBC 1  
✓ Catbird 1 (1)  
Yellow Warbler 1 ♀  
Dusky Cap 1 (1)  
Redstart ♀ 1  
WBFL 1 (1)  
2nd Bunt 1 (1)  
Hooded Warbler 1  
Paler Warbler 1 (1)  
B/G Tanager 1 (1)  
Mangrove 1  
YBC 1

Path so far marked  
by flagging on fence

Pt 9 - Still Cloudy 922

Yellow Warbler 1 10 min  
The bird 1 - chased Redstart  
Cin. Warbler  
Catbird 1 (1)  
Wilson's 1 (1) (same?)  
Br. Fly 1  
Catbird 1  
Redstart 1 (1)  
Th. B. Seed Finch 1  
WBFL 1 (1) (1)  
V. Goldfinch 1  
Th. Fly 1 (1)  
YBC 1  
C. W. 1 (1)  
V. B. 1 (1)  
So. House Wren 1  
Wh. tail Vireo 1 - aerial

Cloudy 820-910 Cloud

APRIL PAST EDGES	SNOW	Cloudy
✓ Th. Vireo	11.8	18L
Catbird	11.8	15L
Redstart	11.8	1R
Wilson's	11.8	1R
WBFL	11.8	FL 1/2
YBC	11.8	1L
Bl. Gnatcatcher	11.7	18L 1/2
Ch. Gnatcatcher	11.8	60 6/7
LT. Tanager	11.9	2L
Redstart	11.8	18L 1/2
Wilson's	11.7	4L 1/5
Yellow Warbler	11.6	4L 3/5
Wilson's	11.7	2L 1/2
So. House Wren	11.7	9L
WBFL	11.7	15L 1/2
Wh. tail Vireo	11.8	1L

C

SUPPLY WENT 8/10  
 CASH 1.00

Drizzle - 7:20

Ind. Bon A h	1.4	7L	
Catbird s	1.1	2L	5/7
Witch s	10.8	1R	Rem.
Mourning s	10.5	"	4/3
CYT h, s op	10.5	3R	Scrub
UPB Ch	10.4	17R	"
WCS s	9.9	4R	1/2
Yellow W s	9.5	4R	
4 Marked Tams	9.7	8R	10/14
LEFL h	9.6	3R	4/12
② Buff Tan Scabb	9.4	5L	7/12
Bulldog Crab	9.5	3R	
Oreofulcr	9.5	7L	2/6/20
No Warbler h	9.2	5R	Stem
row Gr. Olive warblers	8.9	4L	7/10
LEFL h	9.2	10L	
① B/G Thru	9.5	10R	12/13
② S.R. Tan	9.7	3L	6/8
SOTR s	9.3	3L	7/7
BO Flyc s	9.4	3R	6/7
① Y/Ws Eph h	9.1	17L	
R B Tanager s	9.7	20L	13/13
Catb s	9.3	8L	4/3
" s	9.4	3L	5/1
" s	9.1	8R	9/2
Med Blbb s	8.9	1R	4/2
① Col Tan	8.5	5L	3/9

① B Thru Salt s	8.5	5L	
Catb h s	7.9	6R	Tg
Catb h	7.2	12R	4
<del>Ind. Bon A h</del>	<del>7.2</del>	<del>12R</del>	<del>4</del>
Ind. Bon A h	7.5	13R	Tg
WCS s	7.8	15L	1/1
WCS s	7.2	3L	1/1
LEFL h	6.3	11R	1/2
CYT s	6.3	2L	2/2/12
CYT s	6.6	5L	1/1/12
Yellow Warbler s	6.5	19R	2/1/12
WCS s	6.1	17R	2/1
LEFL h	6.2	5L	Tg
Yellow Warbler h	6.1	15L	
WCS s	5.7	19R	2/1/12
Ind. Bon A s	5.9	20R	3/1
CYT s	5.3	6R	0.5/1/13
Yellow Warbler	5.7	3L	2/1/3
Ind. Bon A h	4.7	16L	
WCS h	4.7	7R	
Red-b. s	4.7	0L	4/1
SOTR s	4.7	18L	8/10/12
Catb s	4.6	11L	7/10/12
Yellow Warbler	4.3	10L	7/10
WCS h	3.7	2R	4/1
Yellow Warbler h	2.8	11L	
CYT s	2.6	5R	
WCS s	2.4	6L	4/1
CYT s	2.2	1L	
Yellow Warbler	2.5	1L	
Ind. Bon A h	2.3	10L	
Yellow Warbler	1.3	7R	
WCS s	1.4	20L	3R
Catb h	1.2	6L	
WCS h	0.5	1L	
WCS s	0.2	15L	
Yellow Warbler	0.5	10L	9/1
Wilson's h	0.2	17R	1/1
LEFL	0.1	11R	4/1
WCS h	0.1	11R	

Wilson	12.8	3L	2
Sooty Tern	NOTHING		
Long W. Petrel	12.6	7L	12R
Br. Hummingbird	12.8	3L	9/12
2 Catbirds	12.8	8	10R
Mourning Dove	12.9	5R	3/12
W. G. W.	14.1	7R	12R
3rd Catbird	13.8	8R	
2 YBC	13.8	5L/10R	
Redstart	13.8	7L	10
Wh. Bel. E.	"	"	"
B. Thrush	14.2	3L	2/6
LEFL	14.2	3L	4/6
Wilson	14.2	5L	7/6
Sp. Br. Wren	14.2	6L	3/6
Catbird	16.3	12R	
Cash	16.4	12R	
CIT	16.5	7R	40%
CIT	16.5	20R	5/4
P/B. Gnatc.	16.8	8R	4/4
R.C. Hummingbird	16.7	18R	
CIT	18.5	67R	1/1
W. G. W.	18.1	18L	1/2
Mourning Dove	19.0	17R	20/123

well comes

8 m

2x8 11	April 3	wh	10	
2x6 11	Hummingbird	4	6R	10
4x13 11	Hummingbird	3	gray	up
6x25 1	Coleopt	4	14R	10
3x8 11	Spider	3	white	10
5x12 1	"	3	14R	10
5x20 1	Hummingbird	3	white	10
7x20 11	"	3	y/	10
8x15 11	"	1	y/	"
4x13 11	Coleopt	7	rd/bk	up
Princ 5-18 11	"	7	y/bk	"
	Hummingbird	6	rd/bk	"
<hr/>				
3L	Spider	14R	5	10
9x18 1	Hummingbird	wh	2	"
5x14 11	lep Larva	11	6/6	10
6x12 11	Coleopt	6	5/6	up
3x9 11	lep Larva	5	8	10
3x6 1	40 Domesticon	8	6/6	st/
4x12 11	47 horned variety			
5x17 11	Hummingbird	6	5/6	st
4x8 1	Hummingbird	4	rd	up
5x18 11				
5x10 1				
4x10 1				
5x10 1				
1x1 1				
6x13 1				
1x1 1				
3x8 1				

10 am

5 NOV

Ed. Portrero 8/19 Schtz 61 Lt

No Os ♀ 3/3 Gl Lt Choc

1/1 (Melast) Funga Fruit Blue

chimed Marked Tanagers

with another at

No Os in 1/3 261 dead leaves, lean 4x12 15/11 20

Orch. Ooble in 1/3 1/31 leaves

261 dead leaf

with another in 1/3 + ad

SUTA in 14/18 Sa Lt ad 2m

" " Bee Nest ad 2.5m

45 NOV Ed. Portrero Manchon

SUTA 0 1/2 Cees Fruit Gls

12/13 Fruit Gls 0.5m

6 NOV 91 UPLAND FOREST 4/11 4/12

610 905 Clouds

Pale bill w/ pkr h 0.2 174

W.B. w/ pkr h 0.2 8R 1/4 Gap

Cent. Wob h 0.2 10R 3/13

B.F. Ant h 0.4 6R

Sp Br Wren h 0.5 12L

Dus. / Ant h 0.9 7R 1/5 Gap

L.T. Hermit h 0.7 14R

Stat. Id Trogon h 0.3 15L

Manay

11 20R

ED. W. Ant h	1.3	2R	
O.B. Sparrow h	1.1	8R	5/5 Gap
T.C. Greenlet h	1.1	8R	5/5 "
W.T. Spadebill h	1.1	8R	
B.F. Shrike-Tan h	1.3	17R	
W.B. Wood Wren h	1.4	3R	6/2 Gap
Banded Ant h	1.6	14L	
SUTA h	1.4	20R	
W.B. Wren h	1.6	7L	2/20
Long bill Wren h	1.5	13R	
R.C. Ant-Tanager h	1.9	16L	5/32
G.C. Warbler h	2.1	15R	8/32
2 B.T. Saltators	2.3	20L	
W.T. Spadebill	2.5	7R	7/10
Thrush-like Manak h	2.4	18R	
B.F. Ant h	2.3	10R	9/11
Wood h	2.9	9R	9/10
O.B. Sparrow	2.7	15L	8
W.B. Wren	3.1	6L	7/12
Greenish Warbler h	3.2	20R	Stream
Rufous Manak h	3.4	8R	18/25
Wren h	3.4	17L	15/35
SUTA h	3.6	17R	18/24
B.F. Ant h	3.6	6L	9/30
R.C. Ant-Tanager h	2.9	4R	2/23
Wood h	3.7	6R	9/11 Stream
B.F. Ant h	4.3	17R	4/12
R.C. Ant-Tanager h	5.5	7R	7/30
G.C. Warbler h	5.7	8R	5/20
B.F. Shrike-Tan h	1.1	1.1	1.1
O.B. Sparrow	6.1	4R	9/30
Wood Wren h	6.2	8L	Stream
Brown h	6.2	15L	4/10
Manay h	7.1	18L	
Green Forest Tanager	7.1	35L	
G.C. Warbler h	6.9	6L	5/10
Wood h	7.3	4L	

C

Mazzy	7.8	18R	
"	8.2	7R	1/19
Thrush-like Parula	7.8	20R	
1/3 Cacique h	9.4	10L	
② Dot W Ant When	10.3	16R	
② Sp Br Wren s	10.5	6A	6/14
③ Wh Br W When s	10.1	5R	9/23
Rusby Phoebe h	10.5	15L	
W B Wren	10.3	62	
1/3 Cacique	10.5	7R	
④ RC Ant Tan			11/23
T.C. Greenlet			9/23
⑤ OR Sparrow	10.4	10L, 7R	
③ Y Ant Tan			
Xenops			
R.C. Ant Tanager			
W B Wren h	11.5	13L	9/35
⑦ W B Wren	11.6	4L	4/23
Sulph Rim Flyc	12.2	11	15/23
Hooded h	12.2	15L	12/23
Lesser Greenlet	12.5	11R	12/23
T.C. Greenlet	12.4	"	
Eye Ring Blackb	"		14/26
R.C. Ant Tan.	12.6	17R	
Kent wh Wren	12.6	13L	
S.A. Flyc	12.4	4L	9/23
Redstart h	13.4	16R	16/23

Sp Br Wren	14.3	18R	
Ch Sided Owl h	14.2	7R	5/23 Gap
W B Wren h	14.2	11L	28/30
1/3 Cacique s	14.9	18R	
Redstart h	15.2	4R	3/16
OR Euphonia	15.5	16R	
W B Wren h	15.8	2R	Gap
W B Wren s	16.5	2R	9/20
G.C. Wren		13L	
W B Wren h	16.4	14R	
W B Wren h	16.1	13R	
Redstart s	16.3	8L	10/23
W B Wren h	"	16L	1/20
W B Wren h-s	18.9	6L	3/19
OR Euphonia h	19.9	15R	

Palm	R.I.G.S	13R	WET	LEAVES	
3x8	11		Coleopt	3	b/c
2x15	11		Cockroach	12	rd/bk
5x12	1		Snail	5	br
3x35	1		Spider	6	b/c
5x15	1		Homopt	3	b/c
4x16	11		Spider	4	rd
3x12	1		Snail	4	br
Palm 2x75			Coleopt	3	rd/bk
5x16	11		Homopt	3	b/c
5x22	11		Ant	4	yl
Palm 2x72	11		Spider	4	b/c
1.5x5	11		Snail	3	"
5x12	11		Coleop	3	b/c
4x11	1		Snail	5	br
4x12	11				
Palm 3x8	1				

14m

3L

3x8	11	Snail	4	or	up
4x25	111	Katy H	8	1/4	up
3x30	11	Snail	6	br	up
4x15	1	Sn	5	or	"
5x15	1	Cockroach	13	1/2	"
4x12	1	2 Spider	5	gr	up
6x72	1	Katy H	6	gr	10
2x20	111	Snail	3	br	10
4x18	1	Colaptes	3	bl	10
5x28	11	Sp	5	gr	10
5x12	1	Colaptes	5	br	up
3x12	1	Snail	3	"	"
6x8	1	Lepidoptera	10	1/2	up
7x25	11				
5x20	1				
3x40	111				

17m

understory from 0.0-1.0 clear

W. T. Hummer	S	0.3	5L	3/4
2 Social Fly	h	0.5	2R	5/5
2 Och Oriole	mot	0.3	8R	5/5
W. T. Hummer	ad	0.3	7R	3/4
B. T. Cat		0.3	1R	
Yellow Warb	ad	0.2	13L	1/6
WBC	S	0.3	7L	

1-11 h

0.5 10L 1/3

WBC		0.5	9L	2/5
Yellow Warb	S	0.2	13L	4/6
WBC	h	0.6	10L	13L
WBC	S	0.6	11L	2/2
WBC	Small	0.7-1.5	12L	
WBC	Br of C.R.		immature	adult
WBC	h	1.5	20L	
WBC	h	1.3	15L	
Och Oriole	S	2.2	10L	2/2
Yellow Warb	S	4.3	8R	8/9
WBC	h	4.3	13R	
WBC	h	3.8	13R	
Och Oriole	S	4.3	8R	8/9
WBC	h	4.9	12R	
WBC	h	4.7	9L	2/3
WBC	h	4.9	17R	
Yellow Warb	S	4.8	20R	
WBC	h	"	"	

Pt 5-8 -> Cultured

WBC	ad	8.3	7L	1/2
2 WBC	S	7.7	11R	8/8
WBC	h	8.1	10L	
WBC	h	8.2	16R	
WBC	h	8.5	17R	
WBC	h	8.8	21R	
WBC	h	8.8	21R	8/8
WBC	h	9.1	16R	8/8
WBC	h	9.2	11R	
WBC	h	10.5	11R	
WBC	h	9.8	8R	18R

9.7

Cultured

WBC	h	10.7	11R	1/3
WBC	h	11.8	15R	
WBC	h	11.8	18R	
WBC	h	11.3	6L	6/6
WBC	h	12.1	9L	3/3

C

Species	Sex	Weight (g)	Wing (mm)	Tail (mm)	Notes
White-bellied	S	12.5	10R	11.5	
YBC		12.5	19R	11.5	
2nd	Brown	12.9	11L, 19R	11.5	
12 "	"	13.7	6L	3 1/4	
Yellow-bellied	W	13.7	6L	3 1/4	
WCS	♀	14	3 9L	1 1/2	
CIT	♀	14	9 8R		
Blue Grosbeak	L	15	2-7R	Pigeon	
Kestrel	S	16	2 1 9L	9 1/2	
YBC	L	16	2 10R	1/2	
Carbo	L	17.6	19L		
YBC	L	17.4	20L		
CIT	L	19.1	10R		
YBC	L	19.4	8R		
CIT	L	19.7	11L		
CIT	L	19.8	13L		
North Wat.	L	10.3	16R	Pigeon	

[illegible]

AC blue Pen (00)

Q

Pt 3 Bosque 729

North Waterthr (1)  
 RC Ant Tanager (1) 11  
 Hooded W. (1)  
 Hummer (1)

BF Antthrush 1

TC Greenlet 11

WB Warbler 1

YB Cacique (1)

L.T. Tanager 1

RT Ant Tanager 11

Dusky Woodhoopoe (1) 11

Wood Thrush 1

Wilson's 1

Manag 1

WB Emerald 11

Sp. Warbler (1)

Kentucky (1)

Sulphur rumped 1

Black Patch Grosbeak (1)

Pt 4 Group 700

BT Sh. Tan 1

YBEL (1) 11

Manag 11

OS Euph (1)

Blk Cooled Oriole 1

Dr. W. Ant. Wren (1) 11

St. Hill Alder

Large Red Ploet (15 birds)

YB Cacique (1) 11

Chachalaca (1)

Hummer

Antcatcher

Redstart (1)

Lesser Gnat (1)

Pt 5 Bosque 920 Palms

Hummer (1) 11

Plain Ant. Wren 1

Y. Wren 1

Manag 1

Greenlet (1)

Red wing Ant. Wren (1) 11

YB Cacique (1) 11

Hummer 11

Brown Jays (1)

Little Hermit

Scaled Ant. Wren (1)

RT Ant Tanagers 11

Mont. Oriole (1)

3 NOV 91 Cloudy COOL 635

Pt 6 GIAP

Redstart 1

WB Emerald 11

11/2/2/2/2

1 Y. Hermit 1

RT Ant. Wren 1

Sp. Warbler (1)

BT Sh. Tan (1)

Manag (1)

YB Cacique (1)

WB Warbler 1

Blk Patch Ant. Wren (1)

Dr. W. Ant. Wren (1)

Little Tanager (1)

C

P 7 Borneo

652

Bl Thr Sh Tan (1)  
 Hummer 1  
 YD Flyc 1  
 VBF (1) 1 (18m)  
 RC Ant Tan (1)  
 9 Redstart 1  
 Hum V V V V 1  
 W B Woodcreeper (1)  
 Attila (1)  
 Sp Br Wren (1)  
 Great Antbird (1)  
 Thrush-like Man (1)

P 8 Gap

7 10

VBF (1)  
 Red Antbird (1)  
 Little Tanager (1)  
 Hooded Warb 1  
 Bl Thr Sh Tan (1)  
 Attila (1)  
 Hummer 1  
 Manag (1)  
 Sp Br Wren (1)  
 Thrush-like Man (1)  
 W B Wood Wren (1)  
 Red bill wren (1)

P 9 GAP (from back) 726

Doz many birds when 1/1  
 VBF (1)  
 Guat. Antbird 1 (1)  
 W B Wren (1) (1)  
 Manag 1  
 Redbill (1)  
 YD Flyc 1  
 Hummer L.H. 1  
 Bl Chk wren (1)  
 Tanager (1)  
 Bl Thr Sh Tan (1)  
 W B Woodcreeper 1  
 Orange Warbler 1

TAP RECORD  
 F.P.R.C.

9 NOV 91  
 P 10 Bosque

Cloudy Cool

630

Spadebill 1  
 VBF (1) (1)  
 Thrush-like Manag (1)  
 Xerops 1  
 Red Antbird (Group)  
 W B Woodcreeper  
 Redbill (1)  
 Plum Antbird 1  
 Manag (1)  
 Bl Thr Sh Tan (1)  
 B B Flycatcher (1)  
 R T Flycatcher (1)  
 Doz many birds when (1) (1)  
 L. T. Wren 1  
 Bl Tail Green 1

8 M

all birds in  
 near all  
 fops

P 11 GAP

647

VBF (1)  
 Manag 1  
 Hummer 1  
 Spadebill 1  
 Redbill 1  
 W B Wood Wren 1  
 Yellowthroat 1

Oreochelidon 1  
 Little Hermit 1  
 Bl Thr Sh Tan (1)  
 W B Woodcreeper (1)  
 W B Woodcreeper (1)  
 Redbill 1  
 Sulph. Rump Flyc 1

Pt 12 GAP

705

G.C. Wack	11	W B Wren	11
BC Ant Tan	11	W B Wren	11
BC Ant Thrush	(1)(1)	V V V	11
Spadebill	(1)		
V BFL	(1) 1	18m	ass'd w/ nearby gap
W B Wood Wren	11		
B B Gible	(1)		
B Thr Shr Tan	1		
Spadebill	1		
Brown 1st Parrots	(Group)		
Mealy Parrots	(")		
Thr. W. Manakin	(1)		
Rufous Mourner	(1)		
Sp B Wren	1 (1)		

Pt 13 Bosque (happy) 720

Little Hermit	1
V BFL	(1) 1 - 17m
B Thr Shr Tan	(1)
Mealy Parrots	(Group)
B B Gible	(1)
B T Ant Tan	(1)
W O Oriole	(1)(1) at least
W B Wood Wren	(1)
B L T Ant Thrush	2
Sp B Wren	(1)(1)
O B Sparrow	(1)

Pt 14 - Gap

736

L Hermit	(1) 11
T W Man.	(1)
V BFL	(1) 1 1 → 20, 19m
Y O Flyc.	(1)
B L T Ant Tan	(Group)
Sp B Wren	(1)
Spadebill	(1)
W O Oriole	(1)
Long Tail Hermit	1
W B Wood Wren	11

Pt 15 - Bosque 752

V BFL	(1) (1) (1) → 200m w gap
B L T Ant Tan	(1)
B L T Ant Tan	(1)
W B Wood Wren	(1)
W O Oriole	(1)(1) at least
B L T Ant Tan	(1)
Mealy Parrot	(1)
W B Wood Wren	1
W O Oriole	(1)
Green Jay	(1) (1)

10 NOV '91 SCRUB HABITAT

Foggy - Cloudy - Cold 62°

Pt 2 - Halfway between Tall Swamp & open field  
130° in Pt 2

CYT (1)(1) 11	Orch Oriole	≥ 3
B T Saltator	1	Mal Bitter
Mealy Parrots	5 (Group)	Chat
Sp B Wren	1	Mal Bitter
W BFL	(1) 1	Orch Oriole

C Little Egret 1

Yellow Warbler (1)

Crowsom Coll Tan (1)

Catbird (1) (1) (1) (1)

Magay (1)

Shr. Bunting (1)

WCS (1)

to

PT 2 - Dead Shrub Clump near

melastome w/ large leaves ~ 5m high

640

Brown Hatched Parakeet GPP (1)

WCS (1) (1)

Chat 1

Bananaquit (1)

Magay 1

LOPE 1

Mel Blk bird (1)

Hummer (1)

CYT (1)

Hermit (1) 1 ♀

Ovenbird (1)

PT 3 - ~ 9mL from 15 of S. P. Tran

1140 to 1144

702

CYT (1)

Mel Blk bird (1)

WCS (1) (1) (1)

Mel Bl. Flycatcher (1)

Shr Bunt (1)

CYT 1

Th. Bl. Flycatcher 1

Chat (1)

Redstart (1)

P+4 - ~ 20R 46 45 S. P. Transect

724

CYT (1) (1)

WCS (1) (1) (1)

Catb (1) (1) (1)

BBG (1) (1) (1)

Chat (1) (1) (1)

Mel Blk bird (1) (1)

OB Flycatcher (1)

Redstart ♀ 1

PT 5 - tree w/ spines - left side of hill  
- start left side of hill in PT 6

750

Trop Kingbird (1)

WCS (1) (1)

CYT (1) (1)

Redstart (1) (1)

BBG (1) (1)

Brown Tord (1) (1)

PT 6 - still on left side of hill, looking down

found backside of Ant. Flycatcher

814

Head toward gate of PT 11 of Ant. Flycatcher

Mel Blk bird (1)

Catb (1) (1) (1) (1)

BBG (1) (1)

WCS (1) (1)

Chat (1) (1)

Yellow Warbler (1)

LOPE (1)

Song Spar Flycatcher (1)

CYT (1) (1) (1)

RT Hummer 1

PT 7 - ~ 15m from open area - continue  
from point 6 across low grass clearing  
into left into more open scrub to pt 8

837

WCS (1) (1)

BBG (1) (1)

Yellow Warbler (1)

Catb (1) (1) (1)

Yellow Warbler ♀ 1 (1)

Shr Bunt 1

RT Hummer 1

Chat (1)

Mel Blk bird (1)

Pt 8 - 25m from Air Post sign

900

near mycorrhizal

- straight on to Pt 9

WCS (1) (1) (1) (1)

BIBG (1)

YBEL (1)

BIBN Fly (1)

Catb (1)

Brown Jay (1) (1)

LEFL (1)

Pt 9 - 35m from 2<sup>nd</sup> Forest koder

~ 10m from mycorrhizal tree includes

9/10

Arroyo veg

WCS (1) (1)

Head 10m

Brown St Parrot (6ep)

90° 20

YBEL (1)

12-10

Yellow Warbler

1 Imm ♂

Trop King (1)

Chat 1

LEFL (1)

Pt 10 - buried mag

938

across arroyo

1 Red Gleaner

Shub Rd. Tanager (1)

Catbird (1)

WCS (1) (1)

2nd Shrike (1)

Social Fly (1)

BIBN (1)

YBEL Elaenia (1)

LEFL (1)

Burn Swallow (1)

House Wren (1)

Squ. Cuckoo (1)

Wren-Tanager (1)

Red (1)

Hummingbirds  
all active - super 630 - 920 cloudy

11 NOV 91

20 Forest

cloudy cold

Manary h	21.6	19R	5/9
"	21.8	L	1/1
Redstart	21.9	20L	9/10
BT Fol. Gleaner h	21.8	6L	5/9
YBEL h	21.7	18L	
T-like Manakin h	21.7	11L	
Little Hermit h	21.8	3R	
Ben Hall h	21.3	16L	
S-rumped Flyc h	21.2	9R	2/4
4 Dominican An Wren h	21.2	13R	4/13
W B W Wren h	20.9	5L	1/13
W B W Wren h	20.5	6R	8/12
Hooded Warb h	19.9	7R	
Pt T An + Tann. h	20.2	12L	2/15
2 T Hummingbird	20.1	15L	5/23
Manary h	19.8	13R	
YBEL h	20.1	14L	9/15
Catbird h	19.7	20R	near edge
Catbird h	20.1	19L	
Green Shrike Vireo	20.3	10L	
Lesser Gnatcatcher	20.0	0.0	15/16
12 Olive-backed Thrush h	20.3	5L	8/17
1 Ash Throat			
h	19.7	11R	7/15
YBEL	18.8	17R	11/12
Orange bell Flyc	18.7	17R	9/12
YBEL	18.5	19R	
Manary h	18.6	16R	
Green Elaenia	18.5	14R	13/13
1 Scaled Flyc			
Little Hermit s	18.3	15	
Hummer h	16.2	18L	
W B W Wren h	19.2	11L	0.5/13
Little Hermit h	19.2	18L	
Pt T An s	11.3	12L	0.5/7
Manary h	13.9	15L	16/12
Redstart h	13.7	14R	
YBEL s	13.8	6L	6/15
Wren Thrush s	13.7	7R	4/8

♀ R.C. Manakins	13.8	1L	3/8
Wavy bill Warbler	13.9	1L	3/11
Rufous Hummer	13.2	10L	5/15
Ruf. Hummer h	11.8	8L	
Lesser Gnatcatcher h	11.7	10R	
Cardinal h	11.7	5L	2/18
2 Br Jay	12.8	0.0	20/20
Ches. Siskin h	11.9	18R	19/24
Lesser Gnatcatcher s	11.6	8R	10/14
Robin s ad	11.6	6R	9/12
Mourning s ad	11.6	3R	8/10
Little Hermit s	11.5	0.0	
B/G Gnatcatcher h	11.5	10R	11/12
Belted Kingfisher h	9.9	5L	3/8
Pt. Ant Tanager h	9.8	12L	
Ch. Siskin h	9.3	19L	
Cardinal h	9.3	6R	2/3
Little Hermit s	8.8	4L	4/13
Y.B.C. h	8.4	12L	Clearance
" h	7.7	20L	
Greenish Elaenia h	7.2	8R	
Spadebill s	6.5	7L	2/9
Mourning h	6.4	5R	3/11
R.C. Manakin s	5.9	12	4/9
W.C. " s	"	3R	in orange cage
W.B.W. Warbler	5.4	12	0.3/5
R.C. Manakin s	4.4	5R	2/9

N Oriole	14.2	3R	19/20
look up call of Ches. Siskin whistler			
Cardinal h	3.2	9L	
W.B.W. Warbler	2.2	10L	
Y.B.C. Warbler	2.2	6L	
Ch. Siskin h	2.2	6R	3/12
2 Br Jay	2.2	10R	
2 Lesser Gnatcatcher	2.2	12R	
Hooded Warbler	2.2	7L	
Wood Thrush h	2.2	10R	
Tanager h	1.9	15R	
Y.B.C. Warbler h	2.1	5R	
Greenish Elaenia h	2.2	18L	
Belted Kingfisher h	2.2	6L	
Ches. Siskin s	2.2	21L	3/8
Y.B.C. Warbler h	1.9	10L	
Least Flyc h	1.7	13L	
Y.B.C. h	1.7	210R	
Cardinal h	1.7	17R	
Ch. Siskin h	1.6	6R	
Hooded Warbler h	1.6	18R	
Mourning s ad s	0.8	13R	3/13
Cardinal h	0.8	20R	
" h	0.2	8L	
Yellow Warbler h	0.1	16L	
Greenish Elaenia	0.2	5R	
Ind. Bunting	0.2	16R	
<hr/>			
2x157	VSUGSJ	14L	
6x301	Spider	3	blk
5x21	"	3	or
5x201	"	5	or
5x211	Small	5	br
7x5 11111	"	4	br
4x8 1	"	3	wh
3x8 11	Spider	4	or
6x18 111	"	3	br
4x2 111			
3x221			
2x6 1			
4x111			

9M

Mangrove 2 Bld/300  
 Sep 1990 6/7/90  
 4R

	3x6 1	Homop	3	wh	10
	4x16 HHH	"	5	rd	"
Mel	6x20 1M	Homop	2	yl	"
Mel	5x10 1	Orshop	4	wh	"
	3x9 HHH	Homop	3	rd/10	"
	4x18 111	Swail	4	br	"
	7x5 11	2 Spider	2	yl	"
	5x11 1	Lep law	5	gr	"
Mel	6x35 1	Sp	3	br	"
	3x11 1	Ramp	3	gr	"
Mel	3x12 1				
	4x10 1				

9 M

12 NOV 6N's Pomeroy

625-915 Cloudy

Cloudy  
 5.9 at 10:00  
 cool breeze  
 0.5/1

CyTH	19.9	6R	
YBC h	18.7	10L	
WLS h	19.9	7R	
Liltho Mamm	19.2	6R	
CyTH	19.2	6R	
Ind Bunt h	19.4	11L	
B/bi Gwate. h	18.8	20L	
B/bi h	18.7	14L	
CyTH	18.2	5L	0.5/5
YBC	18.6	16R	0.5/1
Catb h	18.7	8R	
Catb			

9/1 Mangrove  
 10/10/90  
 → So Lb 00 05

Catbs

	17.6	4R	0.1/3
CyTH	18.1	15L	
" h	17.9	12L	
WLS h	18.6	11R	1/2
Scal Cat R Tans	16.7	6R	1/1.5
WLS h	17.0	8R	
B/BG h	17.6	10L	
CyTH h	16.7	9R	
CyTH h	16.5	17L	
B/BG h	16.3	20L	1/2
Yellow Warb h	16.8	10R	1/2
R. Tail Wren h	16.1	7L	
B/bi Gwate. h	16.2	13L	5/2
Catb h	16.1	19R	1/3
" S	15.8	17R	1/3
" h	15.4	7L	
Chat S	15.5	8R	0.5/2
B/NW 9S	15.4	0.0	16/18 Sch 12
SJA	15.5	17R	1/3
2 B/B Sal. h	15.1	0.0	5/18
Duck Cap Phys	"	"	8/18
Ind Bunt h	15.7	13L	
RT Hat Tans	15.4	0.0	0.5/18
R. Tail Wren h	15.4	2L	9/18
YBC h	15.5	20L	
WLS. Warb h	15.5	3L	2/13
House Wren h	14.8	5R	
YBC h	14.8	5L	
Clay Col Robin S	15.2	10L	5/5
YBC h	15.1	6L	2/5
Catb h	13.9	18R	
YBC h	13.9	16R	
Yellow Warb h	12.4	12L	4/6 10/18
Yellow Warb h	12.4		
B/bi Gwate. h	11.2	14R	2/18
SJA h	10.5	5R	2/17
CyTH h	11.1	3L	1/1
" h	11.1	14L	
Yellow Warb h	11.1	5R	0.5/2
Catb h	11.5	7R	

3 No 8/12 Cost Trunk  
Torn apart - under wing

2 Bt 4T Euph	10.7	16R	2/5
1 Top Gough s	10.5	5R	13/4
WCS s	10.6	2L	4/4
Bt G Euph s	10.5	18R	6/10
Loth h	10.6	14R	
2 Mask Tams	10.6	1L	7/12
Sit A 2 s	10.1	2R	4/10
2 Catb s	10.2	0.16R	
1 Small Ant 2 s	10.2	18R	1/3
Bt 5 h	10.5	12R	
Bt 4 T am	"	"	10/12
2 Bt 4 T am s	10.6	3L	3/3
Redstart h	10.5	20R	
Cp W h	10.2	18R	0.5/1
Yellow Warbler h	10.5	17R	
Centaur h	9.7	15R	
VT Euph s	9.2	8R	9/9
2 Top Gough s	7.8	4R	
Small Euph	9.2	6R	10/12
4 Orchard Oriole	10.7	7.7	13R 9/1
WCS 2 s	2.2	"	16R 8/10
Carb s	6.9	5R	0.5/1
Mal Blk h s	5.9	2R	grnd
Carb s	5.8	9R	0.5/1
Orch of Phs	3.8	19L	2/10
WCS s	3.8	15L	10/1

Small Euph s	4.4	10L	10/12
3 Masked Tams s	3.9	8L	5/9
Yellow Warbler h	4.3	3L	8/13
2 Masked Tams h	3.6	5R	5/5
3 Small Ant 2 s	3.2	12L	1/2
Yellow Warbler h	3.2	15L	10/12
WCS s	2.9	12L	
Sp. B. W. h	2.7	20L	
WCS s	1.9	14R	
Loth h	0.1	14R	
Carb h	0.2	18R	

FORECAST 14 NOV '91			
Cloudy 625 940 cloudy			
COOL			
3 RT Ant T am h	19.2	5L	2/14
WCS h	19.8	18L	Grnd
Sp. B. W. h	19.8	20R	
WCS h	19.8	12L	14/22
Yellow Warbler h	19.9	20L	18/25
Greenish Elaenia h	19.8	17L	
WCS h	19.8	12L	14/22
Sit A h	19.6	10R	17/26
WCS h	19.4	7L	2/20
Masked Tams h	19.3	20L	
Orch of Phs h	19.1	15R	
WCS h	19.1	19R	
WCS h	19.2	10L	2/25
2 HC Ant T am	18.8	5L	
2 WO Oriole	18.5	15L	
WCS h	18.6	3R	1/7
WCS h	18.6	7L	
Little Elaenia h	18.3	5R	
WCS h	18.2	2R	7/11
Sulphur W. Euph h	18.1	5L	
RT Ant T am	17.6	17L	
WCS h	17.4	17L	
WCS h	17.7	20L	Grnd

C

Yerupch	17.4	8R	4/5
Wood Thrush	17.3	3R	9/15
Lesser Grackle	17.3	10R	18/23
OB Euphonia	16.8	15L	10/18
Long bill Gnatcatcher	16.7	14L	2/18
Parula	16.8	3R	
Wood Thrush	16.5	16L	
Tanager	16.5	7R	
P.A. Ant Tanager	16.4	10L	3/9
Red Tanager	16.4	5L	
Dark Winged Antwren	16.4	11L	4/13
Band Warbler	16.1	9L	
2 Dusky Warbler	16.1	5L	
Myiophobus	16.2	16L	15/28
Leucorhynchus	15.8	22	3/4
W.B. Ceryle	15.5	18R	3/4
W.C. Manakin	15.5	8R	
Little Hermit	15.5	0.0	
Long bill Gnatcatcher	15.7	10R	
S. P.A.	15.5	10L	16/17
Band Warbler	15.8	6R	3/10
Wilson's Warbler	15.3	13L	4/26
Redstart	15.5	10L	
Parula	15.2	5L	9/9
2 W.B. Ceryle	15.5	6L	
2 Wood Thrush	14.1	16/19	
Redstart	14.2	14/12	

OB Sparrow	13.8	20R	
Blue Bl. Warbler	13.8	18R	2/25
W. Bulfinch	13.3	5L	8/25
2 Sp. P. Warbler	13.8	22L	15L
15P. Pol. Gnatcatcher	12.8	32L	3/21
Theropod	12.1	18L	
Sulphur rump Flyc	12.1	8R	
Parula	12.1	4R	
W. Bulfinch	11.6	5R	3/18
Red Bill Gnatcatcher	11.6	7R	3/28
Redstart			
2 Sp. P. Warbler	11.4	10L	8R
OB Sparrow	11.1	12L	9/15
Swift	10.8	22L	10/11
Pyrrhuloxia	10.2	7R	
Pyrrhuloxia	10.3	18L	Gap
Myiophobus	10.4	18L	"
W. Bulfinch	9.8	20L	
W.C. Manakin	9.5	7L	3/5 Gap
Barnard	9.5	19L	12/18
2 Sp. Bulfinch	9.5	11R	
Myiophobus	9.3	16R	Gap
W. Bulfinch	9.3	9R	Gap
Dusky Antbird	9.2	13L	
Little Hermit	8.9	2L	
T-100 Manakin	8.8	8R	6/11
Lesser Grackle	8.1	17R	
W. Bulfinch	7.8	8L	10/10
2 R. Ant Tanager	6.5	9L	3/10
Blue Crowned Mot. Flyc	6.1	2L	2/10
Leucorhynchus	4.8	16L	
W. Bulfinch	4.1	18L	18/28
Redstart	4.9	11L	9/10
Myiophobus	4.1	8L	
W. Bulfinch	4.1	6L	
W. Bulfinch	4.7	11L	
2 W. Bulfinch	4.9	7R	3/18
W. Bulfinch	4.9	11L	
W. Bulfinch	4.2	15L	10/28
Long bill Gnatcatcher	4.2	10L	

Little Hermit L 4.3 1L

Dark Winged Woodpecker 3.9 0L

Sp. Br. Wren L 3.7 12L

Br. E. Wren Tanager L

YO Fly L

Chert Bird L

Wilson's Warbler L

Br. W. Warbler S

2 Lesser Greenlets S

Common B. Wood L

Magee

38 8R

Large Br. B. Wood L

2 Lesser Greenlets S

Sp. Br. Wren L

Mocker Tanager

Blk. Capped Oriole S

Buff. Thr. Salt

Trop. Br. Woodpecker

Long Bill Woodpecker

Sp. Br. Wren

Long Tail Hermit

Green-backed Sparrow

For. Br. W. Woodpecker

Wedge-bill Woodpecker

Blk. Br. Woodpecker

Manakin L

Br. NW  
2 Wood Thrush

3.7 13R, 10L

No. Raven L

Golden Eye L

No. Oriole L

Magpie L

3 Br. Sparrow L

2 Tanager L

2 Br. Tanager S

2 Br. Tanager L

2 Br. Tanager L

2 Br. Tanager L

2 Br. Tanager L

2 Br. Tanager L

2 Br. Tanager L

2 Br. Tanager L

2 Br. Tanager L

2 Br. Tanager L

2 Br. Tanager L

2 Br. Tanager L

2 Br. Tanager L

2 Br. Tanager L

2 Br. Tanager L

2 Br. Tanager L

2 Br. Tanager L

2 Br. Tanager L

2 Br. Tanager L

2 Br. Tanager L

2 Br. Tanager L

2 Br. Tanager L

2 Br. Tanager L

5.2 12L

2.7 7L

2.3 16R

2.3 3R 3/5

2.1 8R

1.9 9L

1.7 1L 2/4

1.6 1L

14 L

6:20 111

7:20 111

8:20 111

9:20 111

10:20 111

11:20 111

12:20 111

13:20 111

14:20 111

15:20 111

16:20 111

17:20 111

18:20 111

19:20 111

20:20 111

21:20 111

22:20 111

23:20 111

24:20 111

25:20 111

6:20 111

7:20 111

8:20 111

9:20 111

10:20 111

11:20 111

12:20 111

13:20 111

14:20 111

15:20 111

16:20 111

17:20 111

18:20 111

19:20 111

20:20 111

21:20 111

22:20 111

23:20 111

24:20 111

25:20 111

15 W

CACAO POINT COUNTS 15 NOV 1960

6:25

✓ L. T. Hermit: 11

✓ H. T. Hermit: 11

✓ P. T. Hermit: 11

✓ Lesser Greenlet: 11

✓ Attila 11

✓ Sp. Br. Wren (11)

✓ M. T. Hermit: 11

Pale-billed Wood (11) warm

✓ W. Br. Wren: 11

✓ V. Br. L: (11)

✓ V. Br. L: (11)

✓ V. Br. L: (11)

✓ V. Br. L: (11)

✓ V. Br. L: (11)

✓ V. Br. L: (11)

✓ C. Magpie: 1

✓ B. Br. Woodpecker: 1

✓ Red-tail Hum: 1

✓ Inca L. W. Woodpecker: 11

Pt #2

650

- |                           |                      |
|---------------------------|----------------------|
| ✓ W. G. bill W. W. 11     | ✓ W. W. 1            |
| ✓ W. W. 1                 | ✓ Pale Vented P. 11  |
| ✓ Y. O. long Ph. (1)      | ✓ Pale bill W. W. 11 |
| ✓ Y. B. L. 1 (1)          | ✓ Little Tanager (1) |
| ✓ Mealy Parrot (6)        | ✓ Myiophob. (1)      |
| ✓ W. B. W. 1, 1           |                      |
| ✓ R. T. Hummingbird 1     |                      |
| ✓ B. T. Tanager (1)       |                      |
| ✓ Greenish Elaenia (1)    |                      |
| ✓ Hooded 1                |                      |
| ✓ Greenish bill W. W. (1) |                      |
| ✓ G. G. Warbler 11        |                      |
| ✓ Common Collared W. W. 1 |                      |
| ✓ Black Cheeked W. W. 1   |                      |
| ✓ Lesser Gnat 1           |                      |

Pt 3

7:10

- |                           |                          |
|---------------------------|--------------------------|
| ✓ Hooded: 1               | ✓ R. T. Tanager (1)      |
| ✓ B. T. T. (1)            | ✓ Y. O. Ph. (1), 1       |
| ✓ Mealy Parrot (6)        | ✓ W. W. 1                |
| ✓ Myiophob. 1             | ✓ B. C. W. W. (1)        |
| ✓ Greenish bill W. W. (1) | ✓ Yellow Warb. (1)       |
| ✓ Lesser Gnat (1)         | ✓ White Warb. (1)        |
| ✓ White Hawk (1)          | ✓ Chest. Sided Warb. (1) |
| ✓ Gold Front W. W. (1)    | ✓ B. W. W. (1)           |
| ✓ B. L. (1), (1) (1) → 1  | FLY OVER Avila (1)       |

Pt 4

735

- |                        |                     |
|------------------------|---------------------|
| ✓ Hooded: 11           |                     |
| ✓ Redstart: 1, 1, 1    |                     |
| ✓ W. W. 1, 1, 1        | ✓ B. W. 1           |
| ✓ Lesser Gnat 11       |                     |
| ✓ Y. B. L. 1           | ✓ B. T. Tanager (1) |
| ✓ R. T. Hummingbird 1  |                     |
| ✓ B. C. W. 1           |                     |
| ✓ Greenish cap Ph. 1   |                     |
| ✓ White Warb. (1)      |                     |
| ✓ Greenish Elaenia 1   |                     |
| ✓ Brown bill W. W. (1) |                     |
| ✓ White bell W. W. 1   |                     |

Pt 5

750

- |                        |                     |
|------------------------|---------------------|
| ✓ Red start Parrot (1) | ✓ Greenish bill (1) |
| ✓ R. T. Hummingbird 11 | ✓ B. W. 1           |
| ✓ Lesser Gnat (1)      | ✓ Ch. Sided Warb.   |
| ✓ Hooded Warb. (1)     |                     |
| ✓ R. T. T. (1)         |                     |
| ✓ Y. B. L. (1)         |                     |
| ✓ W. W. (1)            |                     |
| ✓ B. C. W. (1)         |                     |
| ✓ Y. O. Ph. (1)        |                     |
| ✓ W. W. (1)            |                     |
| ✓ B. T. T. (1)         |                     |
| ✓ Avila (1)            |                     |

Sudden

H. S. Gnat

Pt 6

8:10

- |                        |                     |
|------------------------|---------------------|
| ✓ Redstart: 1, (1)     | ✓ B. T. Tanager (1) |
| ✓ W. W. (1)            | ✓ S. B. W. (1)      |
| ✓ Y. B. L. (1)         | ✓ W. B. W. (1)      |
| ✓ Ch. W. W. (1)        | ✓ Lesser Gnat (1)   |
| ✓ Y. B. L. W. W. (1)   | ✓ Y. bill W. W. (1) |
| ✓ W. W. (1)            | ✓ S. T. (1)         |
| ✓ B. C. W. (1)         |                     |
| ✓ Commoned Aracari (1) |                     |
| ✓ W. W. 1              |                     |
| ✓ Y. O. Ph. (1)        |                     |
| ✓ B. L. (1) 1 Bm       |                     |

C

P. 7

825

✓ Redstart: (1), 1	
✓ Yellow (1) → 1	16M
✓ B.W. 1	✓ Ar. 1
✓ Green Jay: (1)	✓ Bl. Oak Wren: (1)
✓ B. Gnatcatcher: (1)	✓ Wh. bel. Emerald: 1
✓ Y.T. Euphonia: 1	✓ B. Tanager: (1)
✓ B. Warbler: 1, (1)	✓ D. Ant: (1)
✓ M. 1	✓ Sp. Cuckoo: (1)
✓ Green Gnat: (1)	
✓ Y.T. Vireo: (1)	
✓ Bl. faced Antthrush: (1)	
✓ B. Flyc: (1)	

P. 8

847

✓ M. 1, 1	
✓ Y.T. (1), (1)	✓ S. T. A: (1)
✓ Redstart: 1	✓ Green Jay: (1)
✓ B.T. Humm: 1	✓ B. faced Gnat: (1)
✓ B. Bulwer: 1	✓ Collared Aracuna: (1)
✓ Green Gnat: (1)	✓ Bl. Chk Wren: (1)
✓ Y.D. Flyc: 1	✓ B. Blk Gnat: (1)
✓ No Oriole: (1)	✓ White back Ash: (1)
✓ Sp. Cuckoo: (1)	✓ Chest. Sid. White: 1
✓ All. Aracuna: 1	✓ B. Tanager: (1)
✓ Black Vulture: (1)	
✓ King	

P. 9 - Sun Nov 98

905

✓ M. Humm: 1	
✓ Green Jay: (1)	perched in point
✓ Redstart: (1)	
✓ B. Warbler: (1)	Magg: (1)
✓ Washed Tanager: (1)	
✓ Blue - 11:00 - 11:15	Blue Gnat
✓ D. Ant: (1)	
✓ S. T. A: 1	
✓ Green Jay: (1)	
✓ Sp. Cuckoo: (1)	
✓ B. Flyc: (1)	✓ Y.D. Flyc: 1

P. 10

925

✓ B. Tanager: 1	
✓ B. faced Gnat: (1)	
✓ Y.T. (1), 1	8m "Cha-bank"
✓ M. 1	
✓ B. Tanager: (1)	
✓ Y.D. Flyc: (1)	
✓ B. Ch. Gnat: (1)	
✓ M. 1	
✓ D. Ant: (1)	
✓ B. Tanager: (1)	
✓ Chest. Sid. White: 1	

POINT COUNT	FOREST	16:00
GAP - 16	630	
Bl. faced Antthrush - (1)		
B. Sparrow - 1		
Y.D. Flyc - 1		
B.T. Humm - 1		
Y.T. (1)		
Sp. Cuckoo - 1		
T. like Wren - (1)		
W. T. Thrush - (1)		
W. B. Wren - (1)		

✓ B. Tanager: 1  
✓ B.T. Gnat: 1

G.C. Warbler (1)

Chachalaca (1)

Doc. Wooded Ant. Wren (1)

Pt 17 - Gap (upriver) 7:05

Col. Aracari (1)

Xenops (1)

Sepia Corp Phc (1)

Ant. Wren (1)

Streaked Wren (1)

Blk Thr. Sh. Tan (1)

G.C. Warbler (1)

YB Phc (1)

Blk Hd. Salt (1)

Long bill Great Green (1)

YB Caracara (1)(1)

YBFL (1)

OB Sparrow (1)

Pt 18 - Forest 7:20

At Ant Tan (1)

North Waterthrush (1)

Black Eye Ant Thrush (1)

Bro Hood Parrot (1)

Hooded (1)

W. Bul Wren (1)

YBFL (1)(1)(1) ass'd w/ gags

Little Hermit (1)

T-like Manakin (1)

Wood Thrush (1)

Xenops (1)

Col. Wood Aracari (1)

Spot Wren (1)

Red Macaw (1)

Manakin (1)

Long bill Great Green (1)

YBFL (1)

YBFL (1)

YBFL (1)

YBFL (1)

YBFL (1)

YBFL (1)

YBFL (1)

YBFL (1)

YBFL (1)

YBFL (1)

YBFL (1)

YBFL (1)

YBFL (1)

YBFL (1)

YBFL (1)

YBFL (1)

YBFL (1)

YBFL (1)

YBFL (1)

YBFL (1)

YBFL (1)

YBFL (1)

YBFL (1)

740

805

Xenops (1)

Col. Wood Aracari (1)

Spot Wren (1)

Red Macaw (1)

Manakin (1)

Long bill Great Green (1)

YBFL (1)

YBFL (1)

YBFL (1)

YBFL (1)

YBFL (1)

YBFL (1)

YBFL (1)

YBFL (1)

YBFL (1)

YBFL (1)

YBFL (1)

YBFL (1)

YBFL (1)

YBFL (1)

YBFL (1)

YBFL (1)

YBFL (1)

YBFL (1)

YBFL (1)

YBFL (1)

YBFL (1)

YBFL (1)

YBFL (1)

YBFL (1)

YBFL (1)

YBFL (1)

YBFL (1)

YBFL (1)

YBFL (1)

YBFL (1)

YBFL (1)

YBFL (1)

YBFL (1)

YBFL (1)

YBFL (1)

YBFL (1)

YBFL (1)

YBFL (1)

YBFL (1)

YBFL (1)

YBFL (1)

YBFL (1)

YBFL (1)

YBFL (1)

YBFL (1)

YBFL (1)



Point 20

habitat Forest

Time 805

WCSL (1)

Magnolia Warbler 1

Thrush-like Warbler 1

White-breast Wood Warbler (1)

Ment. Prothonotary (1)

Black-thr. Shrike Tit (1)

Spot-breast Warbler (1)

Wedge-bill Woodpecker (1)

Pale-bill Woodpecker (1)

Wedge-bill Woodpecker (1)

Bob Falcon (1)

Red-bill Tanager (1)

150 m upstream  
Pt. 10 Scrub Mangrove 022

WCSL (1)

WCSL (1)

Yellow Warbler (1)

Green Warbler (1)

WCSL (1)

Red Tanager (1)

Knayan Bay

19 Nov	Scrub	Post-Scrub	Old-Field
WCSL	0.3	20R	620
WCSL	0.5	18L	
WCSL	0.9	19R	
WCSL	0.9	12R	
WCSL	0.9	6R	2/5
WCSL	0.9	1L	
WCSL	1.2	3R	2/5
WCSL	2.2	5L	1/1
WCSL	2.3	7R	0.5/1
WCSL	2.6	5L	
WCSL	2.7	5L	1/2
WCSL	3.3	6L	
WCSL	3.6	8L	
WCSL	3.8	17R	
WCSL	3.8	4L	
WCSL	3.9	5R	
WCSL	4.2	5R	
WCSL	4.3	15R	
WCSL	4.3	13R	
WCSL	4.3	2R	
WCSL	4.3	5L	
WCSL	4.8	4L	
WCSL	5.1	13R	
WCSL	5.1	14R	
WCSL	5.2	10R	
WCSL	5.2	8L	
WCSL	5.2	17R	



10PL h		18.7	10R	
VPL h		18.7	10R	
10PL h		18.7	10R	
VPL		18.7	10R	
2 P-200 h		18.7	10R	
10PL		18.7	10R	
3 B/G h		18.7	10R	
10PL		18.7	10R	
10PL		18.7	10R	

Species	Count	Weight (g)	Length (cm)	Wing (cm)	Tail (cm)	Bill (cm)	Foot (cm)	Middle toe (cm)	Claw (cm)
Adrenal	21	100							
Grey 765-1020									
White-throated	0.2	512							
White-throated	0.2	0.0							
SRH Salt	0.7	712							
Buf The Salt	0.9	120							
Clay Coll Robin	0.1	150							
Red Tail Hawk	0.4	0.0							
Pink Fl. A. B	0.9	912							
White-throated	0.7	100							
Long - tail Hawk	0.6	0.0							
2-13	0.3	100							
Common Coll Tanager	1.7	31							
White-throated	1.6	0.0							
Manly	1.6	0.0							
Blue Sky	0.1	0.0							
Sl. Red	0.1	0.0							

[illegible]



Barnard Antthrush	14.8	1R
YT Euphonia	14.6	5R
Summered White S	15.0	0
Green Antthrush	15.7	13R
YB Cacique	15.5	7R
Cinnamon Coll Tanager	15.5	12R
Sp Br Wren	15.6	12R
Wood Thrush	15.7	12R
Wilson's	15.9	15R
"	16.5	13L
Redstart	16.7	12R
YB Summered S	17.2	9L
BA Salt G	17.2	15R
Yellow Warbler	17.2	12L 13R
Cinnamon Becard	17.5	7L
Sp Br Wren	17.4	7L
YB Cacique	17.3	10L
Blue black Grosbeak	17.5	6L
Scrub Wren	17.3	6L
Wood Thrush	18.6	2L
White Throated S	18.7	00
YB Tanager	18.8	12R 13L
Sulph. rumped h	19.9	6R
Chap. Wren		

CACAO 22 NOV 91 Cloudy  
SIN LAPCZ!

Wilson's Warb	1.1	15L
Kentucky Warb	0.0	3R
Myiozetetes Hum	1.2	5R 5
YBC	1.1	8R 6
Lineated adpr	1.7	0.0
Black Chalk adpr	1.5	5R
Dusky Antbird	1.2	12L
Yellow YRTZ	1.4	10R
Wilson's Warbler	1.5	13L
Maynolia WD	1.4	13L
Cinnamon Coll Tan	2.2	15L
White Collared Man	2.3	4L
Wilson's	2.7	7R
Redstart	3.2	11L
Summer Tanager	3.3	2R
Maynolia	3.3	13R
Wilson's	3.5	0.0
Str. Hd W adpr	3.7	10R

C

Wilson's

4.5 5R

Dusky Cap Flyc

4.7

~~7R~~  
4R

Kentucky Warb

4.6

12L

Aspika

4.6

2L

Olive back Euph

4.6

4R

Magnolia

4.5

16R

Hooded Warbler

5.1

3L

CYT

4.8

0.0

Rufous Mourner

4.8

7R

Rufous tail Heron

4.5

17R

Summer Tanager

4.5

16R

Chest. Side Warb

3.7

Redstart ♀

~~3.7~~ 7.17L

Thrush We

6.9

20L

Redstart

♀

7.2 9L

Magnolia Warb

7.2

17R

Olive Bell Fly

Black White

7.5

18R

Chestnut Side Warb

7.4

13R

Aspika

7.9

6L

Wilson's

7.8

10R

Redstart

8.1

14L

Magnolia

8.1

14L

Rufous Mourner

8.3

13R

Bl Ch Warbler

8.1

10L

YBEL

8.2

18L

2 North Oriole

8.3

0.0

Magnolia Warb

9.2

18L

B-BL Hd. Salt

9.4

7R

Wilson's Warb

9.6

Rufous tail Heron

9.4

6R

Olive Bell Sp

17R

Wilson's

9.7

10L

1. *What is the purpose of this study?*

Copyright © 2010 Pearson Education, Inc. or its affiliate(s). All rights reserved.



Orchard Oriole	13.5	20L
4 Yellow	14.3	2-17L
CYT	14.2	1L 2/3
UCS	13.9	10R
Yellow	13.8	
UCS	14.3	15L
3 Ruby Crd Dove	13.4	10R-20L
Grand Cuckoo	13.1	1L 2/3
UCS	13.3	17R
BPS	12.7	5L
UCS	12.4	1L
2 Orchard Oriole	11.9	11R
2 Ruby Crd Dove	11.8	9L
Yellow	9.3	10R
UCS	9.2	8R
Social Fly	8.9	20R 6/
UCS	8.9	2/3
Camped Cuckoo	8.4	2L 3/4
Orch Oriole	8.7	10L 2/3
Yellow	8.5	3L 1/2
Yellow Warb	6.4	20L
UCS	9.7	2L
Yellow Cuckoo	3.9	9L
Yellow Cuckoo	3.7	20L
Yellow	1.3	10L
CYT	1.2	8L

Species	Count	Notes
0363	0.9	SL
0364	0.9	SL
0365	0.9	SL
0366	0.9	SL
0367	0.9	SL
0368	0.9	SL
0369	0.9	SL
0370	0.9	SL
0371	0.9	SL
0372	0.9	SL
0373	0.9	SL
0374	0.9	SL
0375	0.9	SL
0376	0.9	SL
0377	0.9	SL
0378	0.9	SL
0379	0.9	SL
0380	0.9	SL
0381	0.9	SL
0382	0.9	SL
0383	0.9	SL
0384	0.9	SL
0385	0.9	SL
0386	0.9	SL
0387	0.9	SL
0388	0.9	SL
0389	0.9	SL
0390	0.9	SL
0391	0.9	SL
0392	0.9	SL
0393	0.9	SL
0394	0.9	SL
0395	0.9	SL
0396	0.9	SL
0397	0.9	SL
0398	0.9	SL
0399	0.9	SL

UPLAND FOREST 1 DEC '91 <sup>leaf drop</sup>

650-955 Cloudy Kite hawk P.M. 6.

Species	Count	Weight (g)	Length (mm)	Wing (mm)	Tail (mm)	Notes
Spadebill h	49	20R				
RT Ant Tanager	188	20L				
Bibbing Sh. Tanager	185	10R				
Lesser Greenlet h	"	20L				
Green She Vireo	19					? Gold Greenlet
Orange B.V. sp						
RT Ant Tanager	12	18.6	15L			
Greenish Elaenia						
Wooded Tanager II						
Maya						
Redstart h	16.7	8L				27/30
RT Tanager h	17.1	5L				
WB Ant Tanager h	16.9	5F				
WB Ant Tanager h	16.6	13R				3/24
Spadebill	16.5	13L				
WB Orange h	16.3	10R				4/22
Ovenbird h	15.9	6R				7/4 1/2



2/5

① Rusky Antbird h	15.1	72	Gap
Sp br Wren h	15.1	11L	
Bum. quail h	14.9	13L	12/13
Con Becard Grap	14.9	13L	9/15
Orange bell Phc. s	14.1	3R	4/20
Orange bell Sp h	14.1	15R	
Bum. quail	13.3	15L	15/25
Refuge Wren h	12.3	8R	
② Rt Ant Tan	11.9	9R	3/11
Flamingo Cond Lant	11.7	10R	
Orange bell Spar	11.7	18L	
Golden Cond Lant	11.8	0.0	4/15
Sulphur Red Phc	11.7	6R	5/15
10 Bell Wren			
Spot br. Wren	11.7	10L	8/9
Hood. Wren	11.9	12R	Stom
BC Ant Tan h	11.1	12R	
Lt. Wren s	10.6	0.0	
Sand Bait Wren	10.6	10R	
2 Blk Hd Salt h	10.6	18L	Group edge
VBFL h	10.6	16L	edge
Little Wren s	10.5	6R	
Wren h	9.7	17R	
Redstart h	8.3	3R	25/30
LT Wren s	8.1	1L	
Rt Ant Tan s	7.6	13L	2/3
Magee h	7.5	20R	

BC Grosbeak h	7.3	11R	3/14
Dorothy Ant Wren	6.8	18L	
Bum quail	6.5	2R	19/30
Ch Col Tan	6.4	20R	
WB Wren h	5.7	18L	
Sepia up Phc			
Ch Wren			
Wren h			
LB Wren			
PA Wren			
Grits			
RT Stan			
RT h			
BC h			
OB Sparrow			
Ch Col Wren			
Con Becard			
Bum quail			
Wren h			
YO Phc			
③ Rusky Antbird h	4.1	12L	
Hooded Wren h	3.5	9L	
Grackle h	3.7	16R	
Magee	3.1	10R	
Wren h	3.1	5L	
PA Wren h	2.8	15R	
Wren h	2.5	5L	
Wren h	1.7	15R	
Wilson h	2.2	10R	Sur.
Magee	1.6	6L	12/15
Rt Ant Tan	1.5	17L	
SP Br Wren h	0.5	8L	

WE wait

09 → 0.6

RT Ant Tan

8R → 5L

Sulph B Fly

Hooded Wale

G.G. Wale

RT Ant Tan

TC Gault

Thrushlike Man

Bl Th Sh Tan

Plain Xenops

Chet Sid Wale

RUGS 6R

5x9 11

Katy mwp 3 gr 10

5x10 11

" " 5 " "

4x10 11

21 M

Multipete 12 br up

4x15 11

Snail 4 " "

3x12 11

Spider 3 y1 10

3x6 1

2 Snail 4 " "

3x10 11

lep lms 10 br 10

6x13 11

Snail 4 " 10

5x15 11

Spider 3 br 10

1x5 11

Orthop 4 br 10

6x16 11

1x7 11

3x9 1

2x3 1

16L

21 M

3x20 11

Thrush

4x30 11

"

4x10 1

Snail

2x6 11

Colasp

5x30 11

"

3x30 1

Snail

5x9 11

Spider

2x7 1

Colasp

6x20 11

lep lms

4x8 1

Snail

1x30 1

Colasp

6x17 1

Snail

5x18 1

Katy mwp

POINT COUNTS

2 DEC '91

LOMA

- STREAM ST FROM

DON JORGE

CLADY

PT. 17 Shrub Manchon

Matted Tanager 1

Long-tail Man 11

Colasp 1

40 Fly ①

Black Bird 1

White Bird 1

Yellow Bird 11

Orange Bird ①

Green Bird ②

Blue Bird ③

Red Bird ④

Black Bird ⑤

GIF Pt 18

Brown Hood Parrots (1)

750

Mashed Tanager (1)

Wilson's 1

Ruddy Crane (1)

Little Hermit 11

YBC 1

R + Humming 1

Red-bellied 11

Gray Col Robin (1)

YBFL (1) in wall lines

Summer Tanager (1)

Yellow Warbler (1)

Sp. Cuckoo (1)

Sp. B. Wren (1)

Maggie (1) &

Forest Marchion

Pt 12

812

Str. H. Owl 1

Long-tail Hermit 1

Orange-bell Sp 1

Redstart 11

YBFL 1 10 m up

Little Hermit 1

Yellow Warbler 1

Acacia (1)

Whisker Wren 1

Maggie (1)

Redstart

YBFL (1)

N. Warbler (1)

Y. Euphonia (1)

Wilson's

Shrub Marchion

Pt 19

840

Wagtail 1

YBC 1

Yellow O

BLAN 1

Dusky Hermit 1

Red-bellied (1)

Str. H. Wren (1)

Little Hermit 1

Kentucky 1

Y. Euphonia (1)

BB Grosbeak (1)

Snowy Egret

Shrub Marchion

Pt 20

925

W. W. Warbler 1

Redstart 1

B/G Tanager 11

Y. Euphonia (1)

Pale-bellied Fly 1

Scarlet King Tanager 11

Wilson's Warbler 1

Trop. King 1

> 150 m from Pt 19

3000 ft

2000 ft

645-615

Cloudy After P.M. in leafy forest

Red-bellied 1

Little Hermit 1

Redstart 1

Trop. Parrot 1

Ovenbird 1

YBFL 1

Sp. B. Wren 1

B/G Tanager 1

Wilson's Warbler 1

0.1 8L 5/19

0.1 2L 5/19

0.3 10R 5/19

0.2 3L 4/19

0.5 12R 4/19

0.5 14R 4/19

0.2 10R 4/19

0.5 3L 4/19

0.6 4L 4/19

C

735-45 Rain

Gr Gr Phyc h	1.3	2R	19/60
RT Ant Tan h	1.5	9R	2/12
RT Humming h	1.7	6R	
LT Hermit s	1.9	2R	
Spot Wren h	2.8	8L	
BB Grosbe h	3.2	13L	3/22
Calliope h	3.2	16L	
Kentucky Warbler h	3.5	9L	
Mourning s	3.9	13L	10/15
L. Hermit s	3.9	0.0	
BB Grosbe h	3.8	11R	
Green hooded Parrot s	5.7	12L	21/22
Green Jay h	5.7	6L	18/20
Wood Thrush h	5.9	10R	
Lesser Grackle	6.1	20L	
WBL	6.8	17L	
Went. Warbler h	7.1	11L	Treefall
Little Hermit h	7.2	0.0	2/19
Dusky Field Lh	7.4	9R	
No Orange v	7.9	6R	9/13
Plant View	"	"	"
L. Hermit h	8.3	0.0	
Bendbill h	9.7	5R	
Cardinal h	9.9	14R	
L. Hermit	11.1	5R	
RT Ant Tan	"	7R	
2 BL Phyc h	11.3	15R	

Whitebel Wren - Linton to type

Red Cap Man s	11.5	9R	3/13
Calliope h	11.4	13R	
Criss. S. leucol. h	13.1	10L	19/13
3 RT Ant Tan h	13.2	17L	
2 RT Ant Tan h	"	"	
TL Grosbe h	"	20L	
WBL Wren h	"	18L	
Gr. Vireo h	13.4	14L	
VO Phyc h	13.5	11R	
WBL Wren s	13.8	2L	2/7
2 Gr. Wren s	15.2	11L	
3 BL Grosbe h	15.3	8L	
RT Ant h	16.9	14L	
RT Ant Tan h	18.4	18R	
WBL	18.8	6L	
WBL Wren s	19.4	2R	3/23
RT Ant Tan h	19.3	18R	2/13
RT " "	"	20R	3/13
Red. L. Phyc	10.6	11R	
Mourning h	1.7	19R	
TL Grosbe	1.8	15R	
Kentucky h	19.7	12L	
WBL h	19.9	19L	
Olivaceous vireos	20.5	2R	4/11
WBL Wren s	20.7	5R	1/11
WBL Wren s	21.4	3L	2/11
WBL Wren s	21.2	20L	
WBL h	21.5	16L	
WBL Wren h	21.6	7R	
WBL Wren h	21.6	1L	7/8
Orange bell Sp s	21.6	16L	

BWIS 17/2

6x11	Spider	10	green	10
3x9	"	4	wh	"
5x10	"	5	grey	"
5x10	"	5	clear	"
1x1	Spider	1	br	"
6x13	"	3	green	"
	Hummer	3	ch	"

C

3x14 11 2x6 1

6x16 1 6x25 1

5x20 1

4x11 11

5x12 1

4x10 11

3x7 1

5x13 1

P 7 Lof 4

1x11 11 11 1

6x17 11

6x20 1

1x4 11 11 1

10x20 1

5x18 1

5x11 1

4x15 11 11

1x35 1

4x11 1

2x6 1

11 m

5 DEC Wet leaves

Antenna 5 grn 10

Home 3 grn 10

Spider 3 1/2 br up

" 7 grn 10

Millipede 12 br st

Spider 2 br up

Snail 4 " "

Grasshopper 5 " "

Spider 4 grn 10

Coleopt 5 or 4

Homopt 3 wh 10

Coleopt 4 wh 10

Homopt 3 gr 10

Wasp 2 1/2 10

Millipede 10 br 10

Many Wilson's birds foraging  
yellow throats yellow warblers  
→ NO CHASE

feeding on buds & small insects  
small leaf larvae (3mm)

5 DEC PORTLAND 6 DEC 91 628-920

Cloudy, cool

Catb h 0.1 18R

Wilson h 0.1 17R

Catb h 0.2 20R

Brown Cr Fly 3.5 3R 4/6 Glenside

Myiophobus 3.8 17L 6/10 0 1/6 3

Black Junco 4.2 2L 12/18

2 Marsh Wren 3.7 20L

2 Small Bluebird 4.7 10R

Yellow-rail 3.6 2L 5/6 Glenside

LEP h 4.5 18R

Marsh Wren 4.8 2R 5/6 12/15

Yellow Warbler 4.5 3L

Red-wing 6.4 19R

B/W Tanager 7.5 20R

Tropical Kingbird 7.5 12R

Scrub Wren 8.4 11R

WCD h 7.2 20R

LEP h 8.2 19R 1/2

Black Ch. Wren 8.3 16R 10/12

1 Wren 8.4 2L

Black Ch. Wren 8.7 17R

Black Ch. Wren 8.1 2R

Black Ch. Wren 8.3 3R 4/5

Black Ch. Wren 8.9 17R

2 Small Wren 6.7 11R 1/2

LEP h 9.4 12R 7/11

Home Wren 10.1 20R

Wilson h 9.7 16R

Greenish Elaenia 9.7 10R

Wilson h 9.1 10R

Wilson h 9.1 18R

Wilson h 10.2 16R

Wilson h 10.2 16R

Catbird s	10.2	13R	8/9
CAT h	10.5	14L	
Catb s	11.5	18L	
Catb h	12.2	10L	
CAT h	11.9	13L	
Redstart s	10.9	13R	8/11
CAT h	12.2	15R	
2 BSG s	12.2	13R	
Orch Orioles			
2 ad	12.3	13R	2/2
1 im			dead copy
4 2-1 im large			in frame
2 Scarlet Tanager	11.5	14R	
2 Nashville Warb s	12.3	13R	
LEFL h	12.1	14R	
Tennessee Warb s	12.3	14R	
wro >	12.6	10L	
BTNW ♀	12.6	12R	8/16
Yell Red Elaenia s	"	"	7/16
LEFL h	12.5	9L	7/5
VBC s	12.5	17R	
Orch Oriole im	12.5	17R	
Yellow Warb ♀	12.8	20L	13/16
2 Sc. Tanager	13.1	20L	3/3
Blk Thr Salt s			
1 BSG		18R	
Wilson's s			
CAT ♀			

LEFL s	13.9	19L	6/2
B/G. Gnatcatcher h	13.9	8L	11/7 S. W. S.
VBC s	14.9	3R	
Wilson's s	15.2	11L	7/7
Catbird	15.1	1L	6/9
LEFL h	15.7	15L	
Wilson's h	16.2	10L	
CAT s	16.2	3R	
Mayer h	16.2	8R	
Wilson's h	17.1	14L	
LEFL h	17.2	15L	
CAT h	18.2	3R	
VBC h	17.8	10L	
Squirrel Cuckoo s	18.6	7R	10/10
Wilson's s	18.7	11R	
LEFL h	18.6	19R	
Wilson's s	"	20R	
2 Ind Bunt	17.9	11R	2/2
LEFL h	17.8	12L	
1 Ind Bunt	17.8	10L	
CAT h	18.7	10L	
WCD	18.4	7R	2/2
Wilson's s	19.1	10R	
B/G s 17/2			
4/6/1			
7/14/11			
2-4 11/11			
1-5 11			
1-6/1			
6/8/1			
6/11			
II			
Catbird	6	Orch Oriole	8
Wilson's	9	Nashville Warb	2
Blackbird	1	Tennessee "	1
LEFL	9	BTNW	1
Yellow Warb	2	VBC	3
Redstart	2	VBC	1
CAT	7	Wilson's	2
		Ind Bunt	3

6 DEC BDS POTR. cloud/  
SUTA ♀ 5 Lu Bees on *D. dimorpha*  
(-single 1 cm) flowers

SUTA ♂ Several Gallies 16/12  
in diff. *D. dimorpha* tree. Prob  
after bees

- John + Celtic Tans
- Skip?
- Geoff + Joanne
- Bill + Nance
- Lin + Joanne
- Mark Council
- Su + Jane
- Oris
- Terri Don
- Janet + Carol
- Steve Sars

TABLE I

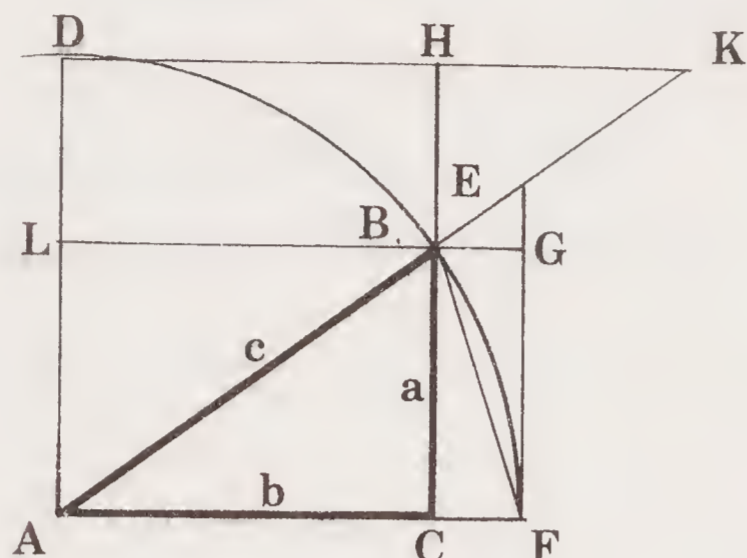
## Fórmulas Trigonométricas

# FUNCIONES TRIGONOMETRICAS

Sea el ángulo BAC (Fig. 1) =  $A$  = arco BF, y el radio  $AB = AF = AD = 1$ .

Entonces:

sen	A = BC
cos	A = AC
tg	A = FE
cot	A = DK
sec	A = AE
cosec	A = AK
senver	A = CF
cosvers	A = LD
exsec	A = BE
coexsec	A = BK
cuerda	A = BF



(En el triángulo recto) ABC (Fig. 1), sea el ángulo  $\text{BAC} = A$ ,  $\text{ABC} = B$  y  $\text{ACB} = C = 90^\circ$ . Haga el lado  $\text{BC} = a$ ,  $\text{AC} = b$  y  $\text{AB} = c$ .

Entonces tenemos que:

- 1.-sen  $A = \frac{a}{c} = \cos B$
- 2.-sen  $B = \frac{b}{c} = \cos A$
- 3.-tg  $A = \frac{a}{b} = \cot B$
- 4.-tg  $B = \frac{b}{a} = \cot A$
- 5.-sec  $A = \frac{c}{b} = \operatorname{cosec} B$
- 6.-sec  $B = \frac{c}{a} = \operatorname{cosec} A$
- 7.-senver  $A = \frac{c-b}{c} = \cosver B$
- 8.-senver  $B = \frac{c-a}{c} = \cosver A$
- 9.-exsec  $A = \frac{c-b}{b} = \operatorname{coexsec} B$
- 10.-exsec  $B = \frac{c-a}{a} = \operatorname{coexsec} A$
- 11.-  $a = c \operatorname{sen} A = c \cos B$   
 $= b \operatorname{tg} A = b \cot B$   
 $= \sqrt{c^2 - b^2}$   
 $= \sqrt{(c+b)(c-b)}$
- 12.-  $b = c \cos A = c \operatorname{sen} B$   
 $= a \cot A = a \operatorname{tg} B$   
 $= \sqrt{(c+a)(c-a)}$
- 13.-  $c = \frac{a}{\operatorname{sen} A} = \frac{a}{\cos B}$   
 $= \frac{b}{\cos A} = \frac{b}{\operatorname{sen} B}$   
 $= \sqrt{a^2 + b^2}$

TABLA I

## Fórmulas Trigonométricas

14.  $\sec A = \frac{1}{\cos A} = \text{tg}A \cos A; \therefore \cos A = \frac{1}{\sec A} = \cot A \sec A$

15.  $\operatorname{tg} A = \frac{\operatorname{sen} A}{\cos A} = \frac{1}{\cot A}$  ;  $\therefore \cot A = \frac{\cos A}{\operatorname{sen} A} = \frac{1}{\operatorname{tg} A}$

$$16. \operatorname{sen} \frac{A}{2} = 1 - \cos A = \frac{\operatorname{sen} A}{2} \operatorname{tg} \frac{1}{2} A = 2 \operatorname{sen}^2 \left( \frac{1}{2} A \right)$$

17.  $\sec A = \frac{1}{\cos A} = \sqrt{1 + \tan^2 A}$  ;  $\therefore \operatorname{cosec} A = \frac{1}{\sin A} = \sqrt{1 + \cot^2 A}$

$$18. \operatorname{exsec} A = \sec A - 1 = \frac{\operatorname{tg} A \operatorname{tg} \frac{1}{2} A}{2} = \frac{\operatorname{sen} A}{\cos A}$$

## FORMULAS DE LA CURVA

Caso 1. Cuando D representa el ángulo correspondiente a una cuerda de 20 m.

$$19. R = \frac{10}{\sin(D/2)} ; \therefore \sin(D/2) = \frac{10}{R}$$

Caso 2. Cuando  $D$  representa el ángulo correspondiente a dos cuerdas consecutivas de 10 m cada una.

$$20. R = \frac{5}{\sin(D/4)}; \therefore \sin(D/4) = \frac{5}{R}$$

21. Longitud de la curva  $L = 20 \frac{1}{D}$  (para  $R \gg 100$  mts)

22. Angulo intersectado  $I = \frac{DL}{20}$

23. Grado de la curva  $D = 20$

24. Tamaño de la tangente  $T = R \tan(l/2)$

25. Cuerda del arco  $C = 2R \sin(l/2)$

26. Ordenada media  $M = \text{Rsenver}(I/2)$

27. Externa  $E = \text{Rexsec}(l/2)$

28. Radio  $R = T \cot(l/2)$

29. Tangente a la curva de 1 grado =  $1145.9 \operatorname{tg}(I/2)$

30. Externa a la curva de 1 grado =  $1145.9 \text{ exsec}(I/2)$   
 $= T \text{tg}(I/4) = aa45.9 \text{ tg}(I/4) \text{tg}(I/2)$

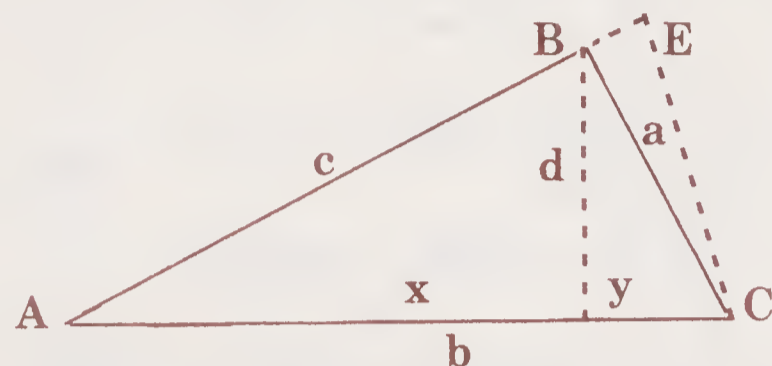
TABLA I

Fórmulas Trigonómicas

## SOLUCION DE TRIANGULOS OBLICUOS

Para evitar confusión de símbolos; "A" y "a" representan el ángulo más pequeño y su lado opuesto respectivamente. "B" y "b" los mayores, dejando a "C" y "c" para representar a los intermedios. Sin embargo, este orden no siempre puede ser observado con las fórmulas 34 y 35.

Fig. 2



	DADO	PEDIDO	FORMULAS
31	Dos Ang's	3er Ang.	3er Ang. = 180 - (Suma de los dos ang. dados)
32	A, B, a	b	$b = \frac{a}{\sin A} \sin B$ ; $\therefore c = \frac{a}{\sin A} \sin C$
	B, C, b	c	$c = \frac{b}{\sin B} \sin C$ ; $\therefore a = \frac{b}{\sin B} \sin A$
	C, A, c	a	$a = \frac{c}{\sin C} \sin A$ ; $\therefore b = \frac{c}{\sin C} \sin B$
33	a, b, c	A, C	Considere el lado más largo "b" dividido por la normal "d" en dos segmentos "x" e "y". Si "d" parte de "B" se tiene la siguiente proporción: $\frac{b}{c+a} = \frac{c-a}{x-y}$ $\therefore x-y = \frac{(c+a)(c-a)}{b}$ $\therefore \cos A = \frac{x}{c} \cos C = \frac{y}{a}$ $\cos A = \frac{b^2 + c^2 - a^2}{2bc} \cos C = \frac{b^2 + a^2 - c^2}{2ab}$
34	a, B, c	$\frac{C-A}{2}$	$\operatorname{tg} \frac{C-A}{2} = \frac{c-a}{c+a} \operatorname{tg} \frac{C+A}{2}$
	A, b, c	C, a	$c \cos A = x$ ; $b-x = y$ ; $c \sin A = d$ $\therefore \operatorname{tg} C = \frac{d}{y}$ ; $a = \frac{C}{\sin C}$
35	a, b, A	B, c	$\sin B = \frac{b \sin A}{a}$ ; $c = \frac{a \sin C}{\sin A}$

Recuerde: Un ángulo y su suplemento tienen el mismo seno. Como B y E Fig. 2

TABLA II

Radios de las curvas métricas

Grados por cadena de 20 m.	Radio de la curva	Logaritmo del radio	Deflexión por metro	D.	R.	Log. R.	d. m.
D.	R.	Log. R.	d. m.				
0° 0	6875.5	3. 8373 04	0.25	2° 0	572.99	2. 7581 45	3.00
12	5729.6	7581 23	0.30	2	563.59	7509 67	3.05
14	4911.1	6911 76	0.35	4	554.51	7439 06	3.10
16	4297.2	6331 84	0.40	6	545.70	7369 58	3.15
18	3819.7	5820 32	0.45	8	537.18	7301 19	3.20
20	3437.8	5362 74	0.50	10	528.92	7233 86	3.25
22	3125.2	4948 82	0.55	12	520.90	7167 57	3.30
24	2864.8	4570 94	0.60	14	513.13	7102 27	3.35
26	2644.4	4223 32	0.65	16	505.58	7037 93	3.40
28	2455.5	3901 47	0.70	18	498.26	6974 54	3.45
30	2291.8	3601 84	0.75	20	491.14	6912 06	3.50
32	2148.6	3321 55	0.80	22	484.22	6850 46	3.55
34	2022.2	3058 27	0.85	24	477.50	6789 73	3.60
36	1909.9	2810 03	0.90	26	470.96	6729 84	3.65
38	1809.3	2575 23	0.95	28	464.60	6670 76	3.70
40	1718.9	2352 46	1.00	30	458.40	6612 47	3.75
42	1637.0	2140 57	1.05	32	452.37	6554 96	3.80
44	1562.6	1938 54	1.10	34	446.50	6498 19	3.85
46	1494.7	1745 49	1.15	36	440.78	6442 17	3.90
48	1432.4	1560 66	1.20	38	435.20	6386 85	3.95
50	1371.1	1383 38	1.25	40	429.76	6332 23	4.00
52	1322.2	1213 05	1.30	42	424.45	6278 29	4.05
54	1273.3	1049 15	1.35	44	419.28	6225 01	4.10
56	1227.8	0891 21	1.40	46	414.23	6172 38	4.15
58	1185.4	0738 81	1.45	48	409.30	6120 38	4.20
1° 0	1145.9	0591 58	1.50	50	404.48	6068 99	4.25
2	1109.0	0449 18	1.55	52	399.78	6018 21	4.30
4	1074.3	0311 30	1.60	54	395.19	5968 01	4.35
6	1041.8	0177 67	1.65	56	390.70	5918 39	4.40
8	1011.1	0048 02	1.70	58	386.31	5869 32	4.45
10	982.23	2. 9922 13	1.75	3° 0'	382.02	5820 81	4.50
12	954.95	9799 79	1.80	2	377.82	5772 83	4.55
14	929.14	9680 81	1.85	4	373.71	5725 38	4.60
16	904.69	9564 99	1.90	6	369.70	5678 44	4.65
18	881.49	9452 19	1.95	8	365.76	5632 00	4.70
20	859.46	9342 24	2.00	10	361.91	5586 06	4.75
22	838.49	9235 00	2.05	12	358.15	5540 59	4.80
24	818.53	9130 35	2.10	14	354.45	5495 60	4.85
26	799.50	9028 17	2.15	16	350.84	5451 07	4.90
28	781.33	8928 33	2.20	18	347.30	5406 99	4.95
30	763.97	8830 74	2.25	20	343.82	5363 35	5.00
32	747.36	8735 29	2.30	22	340.42	5320 15	5.05
34	731.46	8641 90	2.35	24	337.08	5277 37	5.10
36	716.22	8550 47	2.40	26	333.81	5235 02	5.15
38	701.60	8460 93	2.45	28	330.60	5193 07	5.20
40	687.57	8373 19	2.50	30	327.46	5151 52	5.25
42	674.09	8287 20	2.55	32	324.37	5110 37	5.30
44	661.13	8202 87	2.60	34	321.34	5069 60	5.35
46	648.66	8120 15	2.65	36	318.36	5029 22	5.40
48	636.65	8038 98	2.70	38	315.44	4989 20	5.45
50	625.07	7959 30	2.75	40	312.58	4949 55	5.50
52	613.91	7881 05	2.80	42	309.76	4910 26	5.55
54	603.14	7804 19	2.85	44	307.00	4871 33	5.60
56	592.74	7728 66	2.90	46	304.28	4832 74	5.65
58	582.70	7654 43	2.95	48	301.61	4794 49	5.70
				50	298.99	4756 57	5.75
				52	296.41	4718 98	5.80
				54	293.88	4681 72	5.85
				56	291.39	4644 77	5.90
				58	288.94	4608 14	5.95

TABLA II

Radios de las curvas métricas

D.	R.	Log. R.	d. m.	D.	R.	Log. R.	d. m.
4° 0'	286.54	2. 4571 81	6.00'	6° 0'	191.07	2. 2812 00	9.00'
2	284.17	4535 78	6.05	2	190.02	2787 96	9.05
4	281.84	4500 05	6.10	4	188.98	2764 05	9.10
6	279.55	4464 61	6.15	6	187.94	2740 28	9.15
8	277.30	4429 46	6.20	8	186.92	2716 63	9.20
10	275.08	4394 60	6.25	10	185.91	2693 12	9.25
12	272.90	4360 01	6.30	12	184.92	2669 73	9.30
14	270.75	4325 69	6.35	14	183.93	2646 46	9.35
16	268.64	4291 64	6.40	16	182.95	2623 33	9.40
18	266.55	4257 86	6.45	18	181.98	2600 31	9.45
20	264.51	4224 34	6.50	20	181.03	2577 41	9.50
22	262.49	4191 08	6.55	22	180.08	2554 64	9.55
24	260.50	4158 07	6.60	24	179.14	2531 98	9.60
26	258.54	4125 31	6.65	26	178.22	2509 45	9.65
28	256.61	4092 79	6.70	28	177.30	2487 03	9.70
30	254.71	4060 52	6.75	30	176.39	2464 72	9.75
32	252.84	4028 48	6.80	32	175.49	2442 53	9.80
34	251.00	3996 68	6.85	34	174.60	2420 45	9.85
36	249.18	3965 11	6.90	36	173.72	2398 49	9.90
38	247.39	3933 77	6.95	38	172.85	2376 63	9.95
40	245.62	3902 66	7.00	40	171.98	2354 89	10.00
42	243.88	3871 77	7.05	42	171.13	2333 25	10.05
44	242.16	3841 09	7.10	44	170.28	2311 72	10.10
46	240.47	3810 63	7.15	46	169.45	2290 30	10.15
48	238.80	3780 38	7.20	48	168.62	2268 99	10.20
50	237.16	3750 35	7.25	50	167.79	2247 77	10.25
52	235.53	3720 52	7.30	52	166.98	2226 67	10.30
54	233.93	3690 89	7.35	54	166.18	2205 66	10.35
56	232.35	3661 46	7.40	56	165.38	2184 76	10.40
58	230.70	3632 24	7.45	58	164.59	2163 95	10.45
5° 0'	229.26	3603 20	7.50	7° 0'	163.80	2143 25	10.50
2	227.74	3574 37	7.55	2	163.03	2122 64	10.55
4	226.24	3545 72	7.60	4	162.26	2102 13	10.60
6	224.76	3517 26	7.65	6	161.50	2081 72	10.65
8	223.30	3488 98	7.70	8	160.75	2061 41	10.70
10	221.87	3460 89	7.75	10	160.00	2041 19	10.75
12	220.44	3432 98	7.80	12	159.26	2021 06	10.80
14	219.04	3405 25	7.85	14	158.53	2001 03	10.85
16	217.66	3377 70	7.90	16	157.80	1981 08	10.90
18	216.29	3350 32	7.95	18	157.08	1961 24	10.95
20	214.94	3323 11	8.00	20	156.37	1941 48	11.00
22	213.60	3296 07	8.05	22	155.66	1921 81	11.05
24	212.29	3269 20	8.10	24	154.96	1902 23	11.10
26	210.98	3242 49	8.15	26	154.27	1882 74	11.15
28	209.70	3215 95	8.20	28	153.58	1863 33	11.20
30	208.43	3189 57	8.25	30	152.90	1844 01	11.25
32	207.17	3163 35	8.30	32	152.22	1824 78	11.30
34	205.93	3137 28	8.35	34	151.55	1805 64	11.35
36	204.71	3111 37	8.40	36	150.89	1786 57	11.40
38	203.50	3085 62	8.45	38	150.23	1767 60	11.45
40	202.30	3060 02	8.50	40	149.58	1748 70	11.50
42	201.12	3034 57	8.55	42	148.93	1729 89	11.55
44	199.95	3009 27	8.60	44	148.29	1711 16	11.60
46	198.80	2984 11	8.65	46	147.66	1692 51	11.65
48	197.66	2959 10	8.70	48	147.03	1673 93	11.70
50	196.53	2934 23	8.75	50	146.40	1655.44	11.75
52	195.41	2909 51	8.80	52	145.78	1637 03	11.80
54	194.31	2884 93	8.85	54	145.17	1618 70	11.85
56	193.22	2860 48	8.90	56	144.56	1600 44	11.90
58	192.14	2836 17	8.95	58	143.95	1582 26	11.95

TABLA II

Radios de las curvas métricas

D.	R.	Log. R.	d. m.	D.	R.	Log. R.	d. m.
8° 0'	143.36	2. 1564 15	12.00	10° 0'	114.74	2. 0597 04	15.00
2	142.76	1546 13	12.05	2	114.36	0582 62	15.05
4	142.17	1528 17	12.10	4	113.98	0568 26	15.10
6	141.59	1510 29	12.15	6	113.60	0553 94	15.15
8	141.01	1492 49	12.20	8	113.23	0539 67	15.20
10	140.44	1474 75	12.25	10	112.86	0525 44	15.25
12	139.87	1457 09	12.30	12	112.49	0511 26	15.30
14	139.30	1439 51	12.35	14	112.13	0497 13	15.35
16	138.74	1421 99	12.40	16	111.76	0483.04	15.40
18	138.18	1404 54	12.45	18	111.40	0469 00	15.45
20	137.63	1387 17	12.50	20	111.05	0455 01	15.50
22	137.08	1369 86	12.55	22	110.69	0441 06	15.55
24	136.54	1352 62	12.60	24	110.34	0427 16	15.60
26	136.00	1335 45	12.65	26	109.98	0413 30	15.65
28	135.47	1318 35	12.70	28	109.63	0399 48	15.70
30	134.94	1301 32	12.75	30	109.29	0385 71	15.75
32	134.41	1284 35	12.80	32	108.94	0371 99	15.80
34	133.89	1267 45	12.85	34	108.60	0358 30	15.85
36	133.37	1250 62	12.90	36	108.26	0344 66	15.90
38	132.86	1233 85	12.95	38	107.92	0331 07	15.95
40	132.35	1217 15	13.00	40	107.58	0317 51	16.00
42	131.84	1200 51	13.05	42	107.25	0304 00	16.05
44	131.34	1183 93	13.10	44	106.92	0290 53	16.10
46	130.84	1167 42	13.15	46	106.59	0277 11	16.15
48	130.35	1150 97	13.20	48	106.26	0263 72	16.20
50	129.85	1134.58	13.25	50	105.93	0250 38	16.25
52	129.37	1118 26	13.30	52	105.61	0237 07	16.30
54	128.88	1101 99	13.35	54	105.29	0223 81	16.35
56	128.40	1085 79	13.40	56	104.97	0210 59	16.40
58	127.93	1069 65	13.45	58	104.65	0197 41	16.45
9° 0'	127.45	1053 57	13.50	11° 0'	104.33	0184 27	16.50
2	126.99	1037 54	13.55	2	104.02	0171 17	16.55
4	126.52	1021 58	13.60	4	103.71	0158 11	16.60
6	126.06	1005 68	13.65	6	103.40	0145 09	16.65
8	125.60	0989 83	13.70	8	103.09	0132 11	16.70
10	125.14	0974 04	13.75	10	102.78	0119 17	16.75
12	124.69	0958 31	13.80	12	102.48	0106 26	16.80
14	124.24	0942 64	13.85	14	102.17	0093 40	16.85
16	123.79	0927 03	13.90	16	101.87	0080 57	16.90
18	123.35	0911 47	13.95	18	101.57	0067 78	16.95
20	122.91	0895 96	14.00	20	101.28	0055 03	17.00
22	122.48	0890 51	14.05	22	100.98	0042 32	17.05
24	122.04	0865 12	14.10	24	100.68	0029 64	17.10
26	121.61	0849 78	14.15	26	100.39	0017 01	17.15
28	121.19	0834 50	14.20	28	100.10	0004 40	17.20
30	120.76	0819 27	14.25	30	99.69	1. 9986 37	17.25
32	120.34	0804 09	14.30	32	99.40	9973 81	17.30
34	119.92	0788 97	14.35	34	99.11	9961 29	17.35
36	119.51	0773 90	14.40	36	98.83	9948 80	17.40
38	119.09	0758 88	14.45	38	98.55	9936 35	17.45
40	118.68	0743 91	14.50	40	98.26	9923 93	17.50
42	118.28	0729 00	14.55	42	97.98	9911 55	17.55
44	117.87	0714 13	14.60	44	97.71	9899 21	17.60
46	117.47	0699 32	14.65	46	97.43	9886 90	17.65
48	117.07	0684 56	14.70	48	97.15	9874 63	17.70
50	116.68	0669 85	14.75	50	96.88	9862 38	17.75
52	116.28	0655 19	14.80	52	96.61	9850 18	17.80
54	115.89	0640 58	14.85	54	96.34	9838 01	17.85
56	115.51	0626 02	14.90	56	96.07	9825 87	17.90
58	115.12	0611 50	14.95	58	95.80	9813 77	17.95

\* Curvas de menos de 100 m de radio deben localizarse por medias cadenas o cuerdas de 10 m

TABLA II

Radios de las curvas métricas

D.	R.	Log. R.	d. m.	D.	R.	Log. R.	d. m.
12° 0'	95.54	1. 9801 70	18.00'	14° 0'	81.90	1. 9132 95	21.00
2	95.27	9789 66	18.05	10	80.94	9081 62	21.25
4	95.01	9777 66	18.10	20	80.00	9030 89	21.50
6	94.75	9765 69	18.15	30	79.08	8980 74	21.75
8	94.49	9753 75	18.20	40	78.18	8931 18	22.00
10	94.23	9741 85	18.25	50	77.31	8882 17	22.25
12	93.97	9729 98	18.30	15° 0'	76.45	8833 71	22.50
14	93.72	9718 14	18.35	10	75.61	8785 80	22.75
16	93.46	9706 33	18.40	20	74.79	8738 40	23.00
18	93.21	9694 56	18.45	30	73.99	8691 52	23.25
				40	73.20	8645 14	23.50
				50	72.43	8599 26	23.75
20	92.96	9682 82	18.50	16° 0'	71.68	8553 85	24.00
22	92.71	9671 11	18.55	10	70.94	8508 92	24.25
24	92.46	9659 43	18.60	20	70.22	8464 45	24.50
24	92.21	9647 78	18.65	30	69.51	8420 44	24.75
28	91.96	9636 16	18.70	40	68.82	8376 87	25.00
30	91.72	9624 58	18.75	50	68.14	8333 73	25.25
32	91.47	9613 03	18.80	17° 0'	67.47	8291 02	25.50
34	91.23	9601 50	18.85	10	66.81	8248 73	25.75
36	90.99	9590 01	18.90	20	66.17	8206 85	26.00
38	90.75	9578 55	18.95	30	65.54	8165 37	26.25
				40	64.93	8124 28	26.50
				50	64.32	8083 58	26.75
40	90.51	9567 11	19.00	18° 0'	63.73	8043 27	27.00
42	90.28	9555 71	19.05	10	63.14	8003 32	27.25
44	90.04	9544 34	19.10	20	62.57	7963 74	27.50
46	89.80	9533 00	19.15	30	62.01	7924 53	27.75
48	89.57	9521 68	19.20	40	61.46	7885 66	28.00
50	89.34	9510 40	19.25	50	60.91	7847 14	28.25
52	89.11	9499 15	19.30	19° 0'	60.38	7808 97	28.50
54	88.88	9487 92	19.35	10	59.86	7771 12	28.75
56	88.65	9476 73	19.40	20	59.34	7733 61	29.00
58	88.42	9465 56	19.45	30	58.84	7696 42	29.25
				40	58.34	7659 55	29.50
				50	57.85	7622 99	29.75
13° 0'	88.19	9454 42	19.50	20° 0'	57.37	7586 74	30.00
2	87.97	9443 31	19.55	10	56.90	7550 79	30.25
4	87.75	9432 23	19.60	20	56.43	7515 14	30.50
6	87.52	9421 18	19.65	30	55.97	7479 78	30.75
8	87.30	9410 15	19.70	40	55.52	7444 71	31.00
10	87.08	9399 16	19.75	50	55.08	7409 92	31.25
12	86.86	9388 19	19.80	21° 0'	54.64	7375 41	31.50
14	86.64	9377 25	19.85	10	54.21	7341 18	31.75
16	86.42	9366 33	19.90	20	53.79	7307 21	32.00
18	86.21	9355 45	19.95	30	53.38	7278 51	32.25
				40	52.97	7240 08	32.50
				50	52.56	7206 90	32.75
20	85.99	9344 59	20.00	22° 0'	52.17	7173 97	33.00
22	85.78	9333 76	20.05	10	51.78	7141 30	33.25
24	85.56	9322 95	20.10	20	51.39	7108 87	33.50
26	85.35	9312 18	20.15	30	51.01	7076 68	33.75
28	85.14	9301 42	20.20	40	50.64	7044 73	34.00
30	84.93	9290 70	20.25	50	50.27	7013 02	34.25
32	84.72	9280 00	20.30	23° 0'	49.91	6981 54	34.50
34	84.51	9269 33	20.35	10	49.55	6950 29	34.75
36	84.31	9258 69	20.40	20	49.20	6919 26	35.00
38	84.10	9248 07	20.45	30	48.85	6888 46	35.25
				40	48.51	6857 88	35.50
				50	48.17	6827 51	35.75
40	83.90	9237 47	20.50	24° 0'	47.83	6797 35	36.00
42	83.69	9226 91	20.55				
44	83.49	9216 37	20.60				
46	83.29	9205 85	20.65				
48	83.09	9195 36	20.70				
50	82.89	9184 89	20.75				
52	82.69	9174 46	20.80				
54	82.49	9164 04	20.85				
56	82.29	9153 65	20.90				
58	82.10	9143 29	20.95				

\* Curvas de menos de 100 m de radio deben localizarse por medias cadenas o cuerdas de 10 m

TABLA III

Tangentes y externas a curvas de grado 1

Angulo	Tang.	Externa	Angulo	Tang.	Externa	Angulo	Tang.	Externa
1°	10.00	.044	11°	110.3	5.30	21°	212.4	19.52
10	11.67	.059	10'	112.0	5.46	10'	214.1	19.83
20	13.33	.078	20	113.7	5.63	20	215.8	20.15
30	15.00	.098	30	115.4	5.79	30	217.6	20.47
40	16.67	.121	40	117.1	5.96	40	219.3	20.79
50	18.34	.147	50	118.8	6.14	50	221.0	21.12
2	20.00	.175	12	120.4	6.31	22	222.7	21.45
10	21.67	.205	10	122.1	6.49	10	224.5	21.78
20	23.34	.238	20	123.8	6.67	20	226.2	22.11
30	25.00	.273	30	125.5	6.85	30	227.9	22.45
40	26.67	.310	40	127.2	7.04	40	229.7	22.79
50	28.34	.350	50	128.9	7.22	50	231.4	23.13
3	30.01	.393	13	130.6	7.41	23	233.1	23.48
10	31.68	.438	10	132.2	7.61	10	234.9	23.82
20	33.34	.485	20	133.9	7.80	20	236.6	24.17
30	35.01	.535	30	135.6	8.00	30	238.4	24.53
40	36.68	.587	40	137.3	8.20	40	240.1	24.88
50	38.35	.641	50	139.0	8.40	50	241.8	25.24
4	40.02	.698	14	140.7	8.61	24	243.6	25.60
10	41.69	.758	10	142.4	8.81	10	245.3	25.96
20	43.35	.820	20	144.1	9.02	20	247.1	26.33
30	45.02	.884	30	145.8	9.23	30	248.8	26.70
40	46.69	.951	40	147.5	9.45	40	250.6	27.07
50	48.36	1.02	50	149.2	9.67	50	252.3	27.45
5	50.03	1.09	15	150.9	8.89	25	254.0	27.82
10	51.70	1.17	10	152.6	10.11	10	255.8	28.20
20	53.37	1.24	20	154.3	10.34	20	257.5	28.59
30	55.04	1.32	30	155.9	10.56	30	259.3	28.97
40	56.71	1.40	40	157.6	10.79	40	261.1	29.36
50	58.38	1.49	50	159.3	11.03	50	262.8	29.75
6	60.06	1.57	16	161.0	11.26	26	264.6	30.14
10	61.73	1.66	10	162.7	11.50	10	266.3	30.54
20	63.40	1.75	20	164.4	11.74	20	268.1	30.94
30	65.07	1.85	30	166.1	11.98	30	269.8	31.34
40	66.74	1.94	40	167.8	12.23	40	271.6	31.74
50	68.42	2.04	50	169.6	12.48	50	273.4	32.15
7	70.09	2.14	17	171.3	12.73	27	275.1	32.56
10	71.76	2.24	10	173.0	12.98	10	276.9	32.97
20	73.43	2.35	20	174.7	13.24	20	278.6	33.39
30	75.11	2.46	30	176.4	13.49	30	280.4	33.81
40	76.78	2.57	40	178.1	13.75	40	282.2	34.23
50	78.46	2.68	50	179.8	14.02	50	283.9	34.65
8	80.13	2.80	18	181.5	14.28	28	285.7	35.08
10	81.81	2.92	10	183.2	14.55	10	287.5	35.51
20	83.48	3.04	20	184.9	14.82	20	289.3	35.94
30	85.16	3.16	30	186.6	15.10	30	291.0	36.38
40	86.83	3.29	40	188.3	15.37	40	292.8	36.82
50	88.51	3.41	50	190.0	15.65	50	294.6	37.26
9	90.19	3.54	19	191.8	15.93	29	296.4	37.70
10	91.86	3.68	10	193.5	16.22	10	298.1	38.15
20	93.54	3.81	20	195.2	16.50	20	299.9	38.60
30	95.22	3.95	30	196.9	16.79	30	301.7	39.05
40	96.90	4.09	40	198.6	17.09	40	303.5	39.51
50	98.58	4.23	50	200.3	17.38	50	305.3	39.96
10	100.3	4.38	20	202.1	17.68	30	307.1	40.42
10	101.9	4.52	10	203.8	17.98	10	308.8	40.89
20	103.6	4.67	20	205.5	18.28	20	310.6	41.35
30	105.3	4.83	30	207.2	18.58	30	312.4	41.82
40	107.0	4.98	40	208.9	18.89	40	314.2	42.30
50	108.7	5.14	50	210.7	19.20	50	316.0	42.77

TABLA III

Tangentes y externas a curvas de grado 1

Angulo	Tang.	Externa	Angulo	Tang.	Externa	Angulo	Tang.	Externa
31°	317.8	43.25	41°	428.4	77.48	51°	546.6	123.7
10'	319.6	43.73	10'	430.3	78.14	10'	548.6	124.6
20	321.4	44.22	20	432.2	78.80	20	550.7	125.4
30	323.2	44.70	30	434.2	79.49	30	552.7	126.3
40	325.0	45.19	40	436.1	80.16	40	554.8	127.2
50	326.8	45.68	50	438.0	80.84	50	556.8	128.1
32	328.6	46.18	42	439.9	81.53	52	558.9	129.0
10	330.4	46.68	10	441.8	82.21	10	561.0	129.9
20	332.2	47.18	20	443.7	82.90	20	563.0	130.8
30	334.0	47.69	30	445.6	83.60	30	565.1	131.8
40	335.8	48.19	40	447.5	84.30	40	567.2	132.7
50	337.6	48.70	50	449.5	85.00	50	569.3	133.6
33	339.4	49.22	43	451.4	85.70	53	571.3	134.5
10	341.3	49.73	10	453.3	86.11	10	573.4	135.5
20	343.1	50.25	20	455.2	87.12	20	575.5	136.4
30	344.9	50.77	30	457.2	87.83	30	577.6	137.3
40	346.7	51.30	40	459.1	88.55	40	579.7	138.3
50	348.5	51.83	50	461.0	89.27	50	581.8	139.2
34	350.3	52.36	44	463.0	90.00	54	583.9	140.2
10	352.2	52.89	10	464.9	90.72	10	586.0	141.1
20	354.0	53.43	20	466.9	91.45	20	588.1	142.1
30	355.8	53.97	30	468.8	92.19	30	590.2	143.1
40	357.6	54.52	40	470.8	92.93	40	592.3	144.0
50	359.5	55.06	50	472.7	93.67	50	594.4	145.0
35	361.3	55.61	45	474.7	94.42	55	596.5	146.0
10	363.1	56.16	10	476.6	95.16	10	598.7	146.9
20	365.0	56.72	20	478.6	95.92	20	600.8	147.9
30	366.8	57.28	30	480.5	96.67	30	602.9	148.9
40	368.7	57.84	40	482.5	97.43	40	605.0	149.9
50	370.5	58.40	50	484.5	98.20	50	607.2	150.9
36	372.3	58.97	46	486.4	98.96	56	609.3	151.9
10	374.2	59.54	10	488.4	99.73	10	611.4	152.9
20	376.0	60.12	20	490.4	100.5	20	613.6	153.9
30	377.9	60.69	30	492.3	101.3	30	615.7	154.9
40	379.7	61.27	40	494.3	102.1	40	617.9	156.0
50	381.6	61.86	50	496.3	102.8	50	620.0	157.0
37	383.4	62.44	47	498.3	103.6	57	622.2	158.0
10	385.3	63.03	10	500.2	104.4	10	624.3	159.0
20	387.1	63.63	20	502.2	105.2	20	626.5	160.1
30	389.0	64.22	30	504.2	106.0	30	628.7	161.1
40	390.9	64.82	40	506.2	106.8	40	630.8	162.2
50	392.7	65.42	50	508.2	107.6	50	633.0	163.2
38	394.6	66.03	48	510.2	108.4	58	635.2	164.3
10	396.4	66.64	10	512.2	109.3	10	637.4	165.3
20	398.3	67.25	20	514.2	110.1	20	639.6	166.4
30	400.2	67.86	30	516.2	110.9	30	641.8	167.5
40	402.0	68.48	40	518.2	111.7	40	643.9	168.5
50	403.9	69.10	50	520.2	112.5	50	646.1	169.6
39	405.8	69.73	49	522.2	113.4	59	648.3	170.7
10	407.7	70.36	10	524.2	114.2	10	650.5	171.8
20	409.6	70.99	20	526.3	115.1	20	652.7	172.9
30	411.4	71.62	30	528.3	115.9	30	655.0	174.0
40	413.3	72.26	40	530.3	116.8	40	657.2	175.1
50	415.2	72.90	50	532.3	117.6	50	659.4	176.2
40	417.1	73.54	50	534.4	118.5	60	661.6	177.3
10	419.0	74.19	10	536.4	119.3	10	663.8	178.4
20	420.9	74.84	20	538.4	120.2	20	666.1	179.5
30	422.8	75.49	30	540.5	121.0	30	668.3	180.6
40	424.7	76.15	40	542.5	121.9	40	670.5	181.8
50	426.5	76.81	50	544.5	122.8	50	672.8	182.9

TABLA III

Tangentes y externas a curvas de grado 1

Angulo	Tang.	Externa	Angulo	Tang.	Externa	Angulo	Tang.	Externa
61°	675.0	184.0	71°	817.4	261.6	81°	978.7	361.1
10'	677.3	185.2	10'	819.9	263.1	10'	981.6	362.9
20	679.5	186.3	20	822.4	264.6	20	984.5	364.8
30	681.8	187.5	30	825.0	266.1	30	987.4	366.7
40	684.0	188.6	40	827.5	267.5	40	990.3	368.6
50	686.3	189.8	50	830.0	269.0	50	993.5	370.5
62	688.5	190.9	72	832.6	270.5	82	996.1	372.4
10	690.8	192.1	10	835.1	272.0	10	999.1	374.4
20	693.1	193.3	20	837.7	273.5	20	1002.0	376.3
30	695.4	194.5	30	840.2	275.0	30	1005.0	378.2
40	697.7	195.7	40	842.8	276.6	40	1007.9	380.2
50	699.9	196.9	50	845.4	278.1	50	1010.9	382.1
63	702.2	198.0	73	847.9	279.6	83	1013.8	384.1
10	704.5	199.3	10	850.5	281.1	10	1016.8	386.1
20	706.8	200.5	20	853.1	282.7	20	1019.8	388.1
30	709.1	201.7	30	855.7	284.2	30	1022.8	390.1
40	711.4	202.9	40	858.3	285.8	40	1025.8	392.0
50	713.7	204.1	50	860.9	287.4	50	1028.8	394.1
64	716.1	205.3	74	863.5	288.9	84	1031.8	396.1
10	718.4	206.6	10	866.1	290.5	10	1034.8	398.1
20	720.7	207.8	20	868.8	292.1	20	1037.9	400.1
30	723.0	209.0	30	871.4	293.7	30	1040.9	402.2
40	725.4	210.3	40	874.0	295.3	40	1043.9	404.2
50	727.7	211.5	50	876.7	296.9	50	1047.0	406.3
65	730.0	212.8	75	879.3	298.5	85	1050.1	408.3
10	732.4	214.0	10	882.0	300.1	10	1053.1	410.4
20	734.7	215.3	20	884.6	301.7	20	1056.2	412.5
30	737.1	216.6	30	887.3	303.3	30	1059.3	414.6
40	739.4	217.9	40	889.9	305.0	40	1062.4	416.7
50	741.8	219.1	50	892.6	306.6	50	1065.5	418.8
66	744.2	220.4	76	895.3	308.3	86	1068.6	420.9
10	746.5	221.7	10	898.0	309.9	10	1071.7	423.1
20	748.9	223.0	20	900.7	311.6	20	1074.8	425.2
30	751.3	224.3	30	903.4	313.3	30	1078.0	427.3
40	753.7	225.6	40	906.1	314.9	40	1081.1	429.5
50	756.1	227.0	50	908.8	317.6	50	1084.3	431.7
67	758.5	228.3	77	911.5	318.3	87	1087.4	433.8
10	760.9	229.6	10	914.2	320.0	10	1090.6	436.0
20	763.3	230.9	20	917.0	321.7	20	1093.8	438.2
30	765.7	232.3	30	919.7	323.4	30	1097.0	440.4
40	768.1	233.6	40	922.4	325.1	40	1100.2	442.6
50	770.5	235.0	50	925.2	326.9	50	1103.4	444.9
68	772.9	236.3	78	928.0	328.6	88	1106.6	447.1
10	775.4	237.7	10	930.7	330.3	10	1109.8	449.3
20	777.8	239.0	20	933.5	332.1	20	1113.1	451.6
30	780.2	240.4	30	936.3	333.8	30	1116.3	453.9
40	782.7	241.8	40	939.0	335.6	40	1119.6	456.1
50	785.1	243.2	50	941.8	337.4	50	1123.8	458.4
69	787.6	244.5	79	944.6	339.2	89	1126.1	460.7
10	790.0	245.9	10	947.4	340.9	10	1129.4	463.0
20	792.5	247.3	20	950.2	342.7	20	1132.7	465.3
30	795.0	248.7	30	953.1	344.5	30	1136.0	467.6
40	797.4	250.2	40	955.9	346.3	40	1139.3	470.0
50	799.9	251.6	50	958.7	348.2	50	1142.6	472.3
70	802.4	253.0	80	961.5	350.0	90	1145.9	474.7
10	804.9	254.4	10	964.4	351.8	10	1149.3	477.0
20	807.4	255.9	20	967.2	353.6	20	1152.6	479.4
30	809.9	257.3	30	970.1	355.5	30	1156.0	481.8
40	812.4	258.7	40	973.0	357.3	40	1159.3	484.2
50	814.9	260.2	50	975.8	359.2	50	1162.7	486.6

TABLA III

Tangentes y externas a curvas de grado 1

Angulo	Tang.	Externa	Angulo	Tang.	Externa	Angulo	Tang.	Externa
91°	1166.1	489.0	101°	1390.1	655.6	111°	1667.3	877.2
10'	1169.5	491.4	10'	1394.3	658.8	10'	1672.5	881.5
20	1172.9	493.9	20	1398.4	662.0	20	1677.8	885.8
30	1176.3	496.3	30	1402.5	665.2	30	1683.0	890.2
40	1179.8	498.8	40	1406.7	668.5	40	1688.3	894.5
50	1183.2	501.2	50	1410.9	671.7	50	1693.6	898.9
92	1186.6	503.7	102	1415.1	675.0	112	1698.9	903.3
10	1190.1	506.2	10	1419.3	678.2	10	1704.3	907.8
20	1193.6	508.7	20	1423.6	681.5	20	1709.6	912.2
30	1197.1	511.2	30	1427.8	684.9	30	1715.0	916.7
40	1200.5	513.7	40	1432.1	688.2	40	1720.4	921.2
50	1204.0	516.3	50	1436.3	691.5	50	1725.9	925.7
93	1207.6	518.8	103	1440.6	694.9	113	1731.3	930.8
10	1211.1	521.4	10	1444.9	698.3	10	1736.8	934.8
20	1214.6	523.9	20	1449.3	701.6	20	1742.3	939.4
30	1218.2	526.5	30	1453.6	705.0	30	1747.8	944.1
40	1221.7	529.1	40	1458.0	708.5	40	1753.4	948.7
50	1225.3	531.7	50	1462.3	711.9	50	1759.0	953.4
94	1228.9	534.3	104	1466.7	715.4	114	1764.6	958.1
10	1232.4	536.9	10	1471.1	718.8	10	1770.2	962.8
20	1236.0	539.6	20	1475.6	722.3	20	1775.9	967.6
30	1239.7	542.2	30	1480.0	725.8	30	1781.5	972.3
40	1243.3	544.9	40	1484.4	729.4	40	1787.3	977.1
50	1246.9	547.6	50	1488.9	732.9	50	1793.0	982.0
95	1250.6	550.3	105	1493.4	736.5	115	1798.8	986.8
10	1254.2	553.0	10	1497.9	740.0	10	1804.5	991.7
20	1257.9	555.7	20	1502.4	743.6	20	1810.3	996.6
30	1261.6	558.4	30	1507.0	747.2	30	1816.2	1001.6
40	1265.3	561.1	40	1511.5	750.9	40	1822.1	1006.5
50	1269.0	563.9	50	1516.1	754.5	50	1828.0	1011.5
96	1272.7	566.6	106	1520.7	758.2	116	1833.9	1016.5
10	1276.4	569.4	10	1525.3	761.9	10	1839.8	1021.6
20	1280.1	572.2	20	1529.9	765.6	20	1845.8	1026.7
30	1283.9	575.0	30	1534.6	769.3	30	1851.8	1031.8
40	1287.7	577.8	40	1539.3	773.0	40	1857.8	1036.9
50	1291.5	580.6	50	1543.9	776.8	50	1863.9	1042.1
97	1295.2	583.5	107	1548.6	780.6	117	1870.0	1047.2
10	1299.0	586.3	10	1553.4	784.4	10	1876.1	1052.5
20	1302.9	589.2	20	1558.1	788.2	20	1882.3	1057.7
30	1306.7	592.1	30	1562.9	792.0	30	1888.4	1063.0
40	1310.5	594.9	40	1567.6	795.9	40	1894.6	1068.3
50	1314.4	597.8	50	1572.4	799.7	50	1900.9	1073.6
98	1318.2	600.8	108	1577.2	803.6	118	1907.1	1079.0
10	1322.1	603.7	10	1582.1	807.6	10	1913.4	1084.4
20	1326.0	606.6	20	1586.9	811.5	20	1919.8	1089.8
30	1329.9	609.6	30	1591.8	815.4	30	1926.1	1095.3
40	1333.8	612.6	40	1596.7	819.4	40	1932.5	1100.8
50	1337.8	615.5	50	1601.6	823.4	50	1938.9	1106.3
99	1341.7	618.5	109	1606.5	827.4	119	1945.4	1111.9
10	1345.7	621.5	10	1611.5	831.5	10	1951.9	1117.5
20	1349.6	624.6	20	1616.5	835.5	20	1958.4	1123.1
30	1353.6	627.6	30	1621.6	839.6	30	1965.0	1128.8
40	1357.6	630.7	40	1626.5	843.7	40	1971.5	1134.5
50	1361.6	633.7	50	1631.5	847.8	50	1978.2	1140.2
100	1365.7	636.8	110	1636.6	851.9	120	1984.8	1145.9
10	1369.7	639.9	10	1641.6	856.1	10	1991.5	1151.7
20	1373.8	643.0	20	1646.7	860.3	20	1998.2	1157.5
30	1377.8	646.2	30	1651.9	864.5	30	2005.0	1163.4
40	1381.9	649.3	40	1657.0	868.7	40	2011.8	1169.3
50	1386.0	652.5	50	1662.2	873.0	50	2018.6	1175.2

TABLA III

Tangentes y externas a curvas de grado 1

Angulo	Tang.	Externa	Angulo	Tang.	Externa	Angulo	Tang.	Externa
121°	2025.4	1181.2	125°	2201.3	1335.8	129°	2402.5	1515.9
10'	2032.3	1187.2	10'	2209.2	1342.7	10'	2411.5	1524.0
20	2039.2	1193.2	20	2217.0	1349.7	20	2420.6	1532.2
30	2046.2	1199.3	30	2225.0	1356.8	30	2429.7	1540.5
40	2053.2	1205.4	40	2232.9	1363.9	40	2438.9	1548.8
50	2060.2	1211.6	50	2241.0	1371.0	50	2448.2	1557.1
122	2067.3	1217.7	126	2249.0	1378.2	130	2457.5	1565.6
10	2074.4	1224.0	10	2257.1	1385.4	10	2466.8	1574.0
20	2081.6	1230.2	20	2265.3	1392.7	20	2476.2	1582.6
30	2088.8	1236.5	30	2273.5	1400.0	30	2485.7	1591.2
40	2096.0	1242.9	40	2281.7	1407.4	40	2495.3	1599.9
50	2103.2	1249.2	50	2290.0	1414.8	50	2504.9	1603.6
123	2110.5	1255.6	127	2298.4	1422.3	131	2514.5	1617.4
10	2117.9	1262.1	10	2306.8	1429.8	10	2524.2	1626.2
20	2125.3	1268.6	20	2315.2	1437.4	20	2434.0	1635.2
30	2132.7	1275.1	30	2323.7	1445.0	30	2543.9	1644.1
40	2140.1	1281.7	40	2332.3	1452.7	40	2553.8	1653.2
50	2147.6	1288.3	50	2340.9	1460.4	50	2563.8	1662.3
124	2155.2	1295.0	128	2349.5	1468.1	132	2573.8	1671.5
10	2162.8	1301.7	10	2358.2	1476.0	10	2583.9	1680.7
20	2170.4	1308.4	20	2367.0	1483.8	20	2594.1	1690.0
30	2178.1	1315.2	30	2375.8	1491.8	30	2604.3	1699.4
40	2185.8	1322.0	40	2384.6	1499.7	40	2614.6	1708.8
50	2193.5	1328.9	50	2393.5	1507.8	50	2625.0	1718.3

Correcciones para las Tangentes, añada

Angulo	3° Cur.	5° Cur.	7° Cur.	9° Cur.	11° Cur.	12° Cur.	14° Cur.	16° Cur.	18° Cur.	20° Cur.	22° Cur.	24° Cur.
10°	.00	.01	.01	.01	.01	.00	.00	.00	.01	.01	.01	.01
20°	.01	.01	.02	.02	.03	.01	.01	.01	.01	.01	.01	.02
30°	.01	.02	.03	.03	.04	.01	.01	.02	.02	.02	.02	.02
40°	.01	.03	.04	.05	.06	.02	.02	.02	.02	.03	.03	.03
50°	.02	.03	.05	.06	.07	.02	.02	.03	.03	.03	.04	.04
60°	.02	.04	.06	.08	.09	.02	.03	.03	.04	.04	.05	.05
70°	.03	.05	.07	.09	.11	.03	.03	.04	.05	.05	.06	.06
80°	.03	.06	.08	.11	.13	.04	.04	.05	.06	.06	.07	.07
90°	.04	.07	.10	.13	.16	.04	.05	.06	.06	.07	.08	.09
100°	.05	.09	.12	.15	.19	.05	.06	.07	.08	.09	.10	.10
110°	.06	.10	.14	.19	.23	.06	.07	.08	.09	.10	.11	.12
120°	.07	.12	.17	.23	.28	.07	.09	.10	.11	.12	.14	.15
130°	.08	.15	.21	.28	.34	.09	.11	.12	.14	.15	.17	.19

Correcciones para Externas. Añada

Angulo	3° Cur.	5° Cur.	7° Cur.	9° Cur.	11° Cur.	12° Cur.	14° Cur.	16° Cur.	18° Cur.	20° Cur.	22° Cur.	24° Cur.
20°	.001	.001	.002	.002	.002	.001	.001	.001	.001	.001	.001	.001
30°	.001	.002	.004	.005	.006	.001	.002	.002	.002	.003	.003	.003
40°	.002	.004	.006	.008	.010	.003	.003	.004	.004	.005	.005	.006
50°	.004	.007	.010	.013	.016	.001	.005	.006	.007	.007	.008	.009
60°	.006	.011	.015	.020	.025	.006	.008	.009	.010	.011	.012	.013
70°	.01	.02	.02	.03	.04	.01	.01	.01	.01	.02	.02	.02
80°	.01	.02	.03	.04	.05	.01	.02	.02	.02	.02	.02	.03
90°	.02	.03	.04	.05	.07	.02	.02	.02	.03	.03	.03	.04
100°	.02	.04	.06	.07	.09	.02	.03	.03	.04	.04	.04	.05
110°	.03	.05	.07	.10	.12	.03	.04	.04	.05	.05	.06	.07
120°	.04	.07	.10	.13	.16	.04	.05	.06	.06	.07	.08	.09
130°	.05	.10	.14	.18	.22	.06	.07	.08	.09	.10	.11	.12

TABLA IV

Cuerdas a un radio 1, para trazo de ángulos

Angulo	0'	10'	20'	30'	40'	50'	DIFERENCIAS				
							2'	4'	6'	8'	10'
0°	.0000	.0029	.0058	.0087	.0116	.0145	6	12	17	23	29
1°	.0175	.0204	.0233	.0262	.0291	.0320					
2°	.0349	.0378	.0407	.0436	.0465	.0494					
3°	.0524	.0553	.0582	.0611	.0640	.0669					
4°	.0698	.0727	.0756	.0785	.0814	.0843					
5°	.0872	.0901	.0931	.0960	.0989	.1018					
6°	.1047	.1076	.1105	.1134	.1163	.1192					
7°	.1221	.1250	.1279	.1308	.1337	.1366					
8°	.1395	.1424	.1453	.1482	.1511	.1540					
9°	.1569	.1598	.1627	.1656	.1685	.1714					
10°	.1743	.1772	.1801	.1830	.1859	.1888					
11°	.1917	.1946	.1975	.2004	.2033	.2062					
12°	.2091	.2119	.2148	.2177	.2206	.2235					
13°	.2264	.2293	.2322	.2351	.2380	.2409					
14°	.2437	.2466	.2495	.2524	.2553	.2582					
15°	.2611	.2639	.2668	.2697	.2726	.2755					
16°	.2783	.2812	.2841	.2870	.2899	.2927					
17°	.2956	.2985	.3014	.3042	.3071	.3100					
18°	.3129	.3157	.3186	.3215	.3244	.3272	6	11	17	23	29
19°	.3301	.3330	.3358	.3387	.3416	.3444					
20°	.3473	.3502	.3530	.3559	.3587	.3616					
21°	.3645	.3673	.3702	.3730	.3759	.3788					
22°	.3816	.3845	.3873	.3902	.3930	.3959					
23°	.3987	.4016	.4044	.4073	.4101	.4130	6	11	17	23	28
24°	.4158	.4187	.4215	.4244	.4272	.4300					
25°	.4329	.4357	.4386	.4414	.4442	.4471					
26°	.4499	.4527	.4556	.4584	.4612	.4641					
27°	.4669	.4697	.4725	.4754	.4782	.4810					
28°	.4838	.4867	.4895	.4923	.4951	.4979					
29°	.5008	.5036	.5064	.5092	.5120	.5148					
30°	.5176	.5204	.5233	.5261	.5289	.5317	6	11	17	22	28
31°	.5345	.5373	.5401	.5429	.5457	.5485					
32°	.5513	.5541	.5569	.5597	.5625	.5652					
33°	.5680	.5708	.5736	.5764	.5792	.5820					
34°	.5847	.5875	.5903	.5931	.5959	.5986					
35°	.6014	.6042	.6070	.6097	.6125	.6153					
36°	.6180	.6208	.6236	.6263	.6291	.6319					
37°	.6346	.6374	.6401	.6429	.6456	.6484					
38°	.6511	.6539	.6566	.6594	.6621	.6649	5	11	16	22	27
39°	.6676	.6704	.6731	.6758	.6786	.6813					
40°	.6840	.6868	.6895	.6922	.6950	.6977					
41°	.7004	.7031	.7059	.7086	.7113	.7140					
42°	.7167	.7195	.7222	.7249	.7276	.7303					
43°	.7330	.7357	.7384	.7411	.7438	.7465					
44°	.7492	.7519	.7546	.7573	.7600	.7627					

Las diferencias estan en diez milésimos del Radio

TABLA IV

Cuerdas a un radio 1, para trazo de ángulos

Angulo	0'	10'	20'	30'	40'	50'	DIFERENCIAS				
							2'	4'	6'	8'	10'
45°	.7654	.7681	.7707	.7734	.7761	.7788	5	11	16	21	27
46°	.7815	.7841	.7868	.7895	.7922	.7948					
47°	.7975	.8002	.8028	.8055	.8082	.8108					
48°	.8135	.8161	.8188	.8214	.8241	.8267					
49°	.8294	.8320	.8347	.8373	.8400	.8426	5	11	16	21	26
50°	.8452	.8479	.8505	.8531	.8558	.8584					
51°	.8610	.8636	.8663	.8689	.8715	.8741	5	10	16	21	26
52°	.8767	.8794	.8820	.8846	.8872	.8898					
53°	.8924	.8950	.8976	.9002	.9028	.9054					
54°	.9080	.9106	.9132	.9157	.9183	.9209					
55°	.9235	.9261	.9287	.9312	.9338	.9364	5	10	15	21	26
56°	.9389	.9415	.9441	.9466	.9492	.9518					
57°	.9543	.9569	.9594	.9620	.9645	.9671	5	10	15	20	26
58°	.9696	.9722	.9747	.9772	.9798	.9823	5	10	15	20	25
59°	.9848	.9874	.9899	.9924	.9950	.9975					
60°	1.0000	1.0025	1.0050	1.0075	1.0101	1.0126					
61°	1.0151	1.0176	1.0201	1.0226	1.0251	1.0276					
62°	1.0301	1.0326	1.0351	1.0375	1.0400	1.0425					
63°	1.0450	1.0475	1.0500	1.0524	1.0549	1.0574					
64°	1.0598	1.0623	1.0648	1.0672	1.0697	1.0721					
65°	1.0746	1.0771	1.0795	1.0819	1.0844	1.0868	5	10	15	20	24
66°	1.0893	1.0917	1.0942	1.0966	1.0990	1.1014	5	10	15	19	24
67°	1.1039	1.1063	1.1087	1.1111	1.1136	1.1166					
68°	1.1184	1.1208	1.1232	1.1256	1.1280	1.1304	5	10	14	19	24
69°	1.1328	1.1352	1.1376	1.1400	1.1424	1.1448					
70°	1.1472	1.1495	1.1519	1.1543	1.1567	1.1590					
71°	1.1614	1.1638	1.1661	1.1685	1.1709	1.1732	5	9	14	19	24
72°	1.1756	1.1779	1.1803	1.1826	1.1850	1.1873	5	9	14	19	23
73°	1.1896	1.1920	1.1943	1.1966	1.1990	1.2013					
74°	1.2036	1.2060	1.2083	1.2106	1.2129	1.2152					
75°	1.2175	1.2198	1.2221	1.2244	1.2267	1.2290	5	9	14	18	23
76°	1.2313	1.2336	1.2359	1.2382	1.2405	1.2428					
77°	1.2450	1.2473	1.2496	1.2518	1.2541	1.2564					
78°	1.2586	1.2609	1.2632	1.2654	1.2677	1.2699					
79°	1.2722	1.2744	1.2766	1.2789	1.2811	1.2833	4	9	13	18	22
80°	1.2856	1.2878	1.2900	1.2922	1.2945	1.2967					
81°	1.2989	1.3011	1.3033	1.3055	1.3077	1.3099					
82°	1.3121	1.3143	1.3165	1.3187	1.3209	1.3231	4	9	13	17	22
83°	1.3252	1.3274	1.3296	1.3318	1.3339	1.3361					
84°	1.3383	1.3404	1.3426	1.3447	1.3469	1.3490					
85°	1.3512	1.3533	1.3555	1.3576	1.3597	1.3619	4	9	13	17	21
86°	1.3640	1.3661	1.3682	1.3704	1.3725	1.3746	4	8	13	17	21
87°	1.3767	1.3788	1.3809	1.3830	1.3851	1.3872					
88°	1.3893	1.3914	1.3935	1.3956	1.3977	1.3997					
89°	1.4018	1.4039	1.4060	1.4080	1.4101	1.4122	4	8	12	17	21

Las diferencias están en diez milésimos del Radio



The spectrum of the world

- I came into contact with people places, & things which helped me understand a great deal  
- The most Americans in Europe in the 1950s, the case of which they fall into a category about what's happening. The world is not just an ecological disaster but more from a socio-economic standpoint. Americans in the 1950s don't know what's going on. They're not really happening. They can't get a handle on the life and civilization of most people (T.V. mostly). They want to hear and vote for politicians who do just that.

misleading convergence

It's frustrating to think that change is just not going to happen if we are going to rely on governments to make it happen. Experience, corruption, bureaucracy, and power hunger just cut too deep.

